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Modern methods of teaching require increased research, independent study, reading, listening, and viewing. New designs for library facilities are necessary. Some of the innovations in library service and design include: the use of carrels for individual study, provision of a library classroom for use in teaching library research techniques, a departmentalized library with material divided on the basis of subject or department, rooms for teachers' professional materials, and audio-visual equipment storage space.

In planning school library facilities, several general characteristics should be considered. The library should be centrally located in relation to the instructional areas and should have its own outside entrance for use at nights and on Saturdays. The size of the library should be determined by school enrollment and may take any shape that is functional, though long, narrow quarters are not recommended. Careful scientific attention should be given to the factors of light, temperature, sound control, aesthetic appeal, and adequate space to insure the safety and comfort of the library users.

A functional library should include space for each of the following: a reading room with space for books, periodicals, and carrels; room for teachers' professional materials; a conference room; a library classroom or room for storytelling in elementary schools; listening and viewing rooms; storage area for audio-visual materials; a library workroom; a librarian's office; space for textbooks; and departmental libraries.

Architectural drawings of the floorplans of existing elementary and secondary school libraries depicting different arrangements of these functional rooms, furniture, and equipment are presented.

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Library Facilities for elementary and secondary schools

OE-15050

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Library Facilities for
Elementary and Secondary Schools

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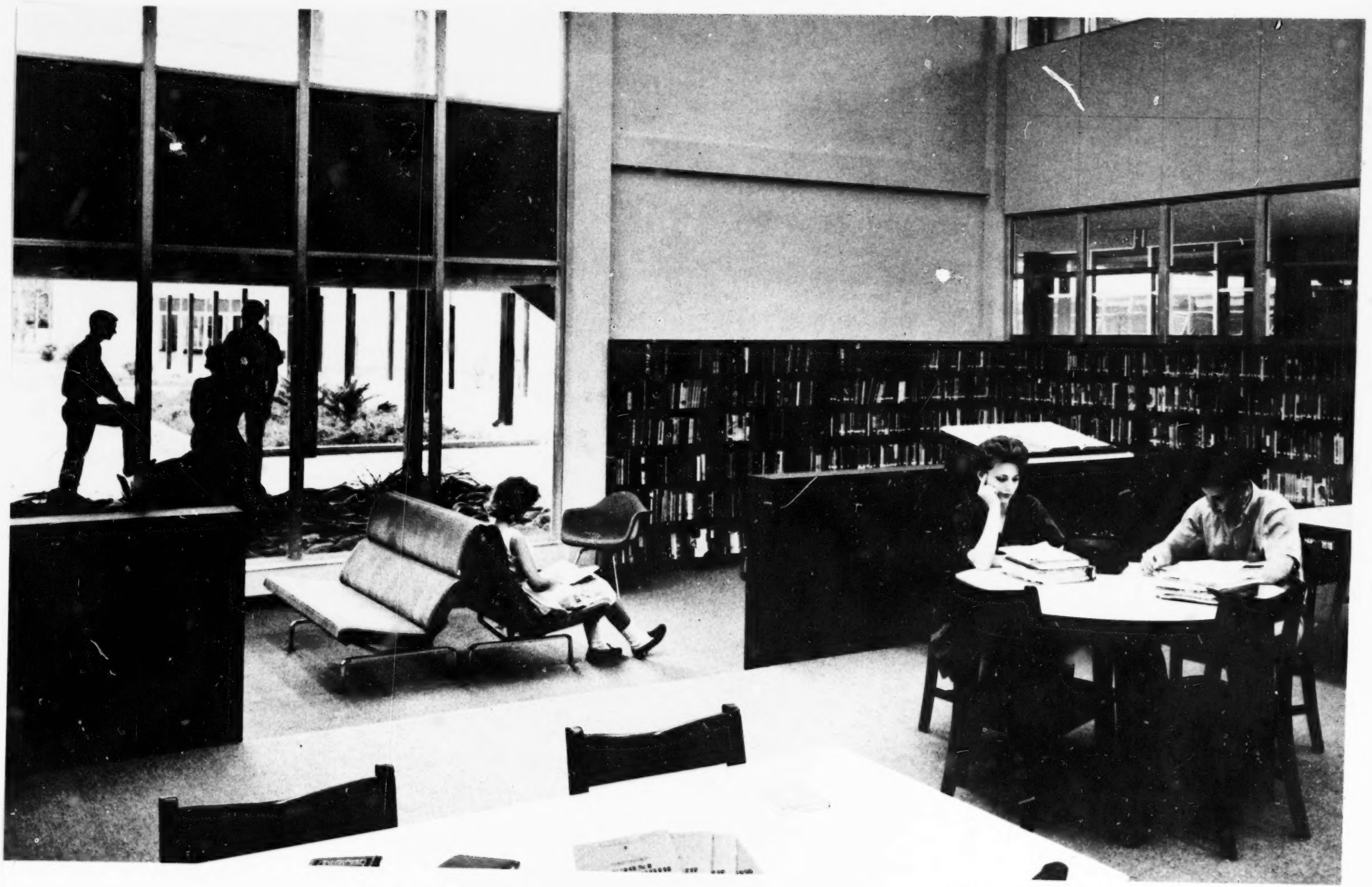

Memorial Senior High School, Houston, Tex.

An attractive browsing area, with book shelves used as room dividers, encourages reading.

OE–15050
Special Publication No. 10

Library Facilities for Elementary and Secondary Schools

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Planning School Buildings

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U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE . . ANTHONY J. CELEBREZZE, *Secretary*
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Foreword

THE PURPOSE OF THIS PUBLICATION is to assist educators in planning functional facilities for expanded school library services. It will also help architects design school library quarters for efficient service to today's programs of elementary and secondary education.

Information on school library programs and facilities, and helpful suggestions for planning school library quarters were obtained by visits to 73 elementary and secondary schools in 16 different States. Schools visited were recommended by school housing chiefs and school library supervisors of State education agencies as representing good library programs and functional library quarters. Suggestions on planning school library quarters were collected from State and local school library supervisors. Photographs and layouts of school library quarters were generously provided by school administrators, librarians, and architectural firms. Other sources of information came from books, bulletins, and articles on school libraries and instructional materials centers.

JOHN L. CAMERON,
Chief, School Housing Section.

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Trends in Education and Their Significance for School Libraries

ADMINISTRATORS, TEACHERS, AND SCHOOL LIBRARIANS are influenced in their ideas of school library functions by current educational trends; and these trends should be understood by architects and others concerned with the planning of school library quarters. Some major educational trends and their effect on planning and organizing school libraries are discussed below.

Changes in the Organization of Secondary Education

Innovations in secondary school instruction have made a great impact on education, and have many direct implications for school library quarters. In order that students may study subjects in depth rather than isolated segments of subjects assigned daily by teachers, it has been suggested that the traditional 45- or 50-minute-period schoolday be changed. Instead, larger segments of time for large group instruction, small group instruction, individual conferences, and independent study have been recommended. Almost half of the high school students' time may eventually be spent in independent study in school libraries, laboratories, and resource centers.

To accommodate many students spending much more time in continued independent study, many secondary school libraries, including junior high schools, now provide carrels (small areas for individual study) electrically equipped for the use of audiovisual materials. (Some elementary school libraries are also providing carrels.) Individual listening posts with racks for earphones for the use of tapes and recordings are also part of modern elementary and secondary school libraries, and this trend will undoubtedly continue.

The reorganization of instruction for very large and small groups of pupils has necessitated places for study in addition to the centralized library and classrooms. Furthermore, the addition of advanced courses in science, mathematics, foreign languages, the social sciences, and language arts has tended to increase the need for materials, many of them on the college level, available in places within the subject departmental suites. These places ensure that materials are readily accessible to teachers and pupils in the process of instruction, and for immediate followup to class or group work. They are important to consider in planning school libraries.

The Instructional Materials Concept

A modern concept of education is that learning is increased when teachers and pupils use all types of audiovisual aids in addition to traditional printed materials. Many professional leaders have supported this concept and have recognized its impact on school libraries. For example, the policy statement of the Council of Chief State School Officers, *Responsibilities of State Departments of Education for School Library Services*, states:

> School library services are a part of instruction . . . In both elementary and secondary schools the library should be the center for a rich variety of materials which not only provide for the

needs of the instructional program but stimulate independent study and research by both teachers and pupils. The State department of education should foster the concept of the library as an integrated instructional materials center, including books, periodicals, audiovisual equipment and materials. . . . (7)*

Expanding Curriculum in Elementary Education

The elementary school curriculum is becoming richer in content, and at the same time there is greater stress on the individualization of instruction, requiring many more and different types of materials for new programs in science, mathematics, foreign languages, language arts, and other subjects. Elementary school libraries, like high school libraries, need to include rooms for the use and storage of audiovisual materials and equipment as well as for the use and shelving of printed materials.

Because of changes in curriculum, much work needs to be done by school librarians and elementary school teachers in evaluating many books and materials and in planning for their use. Conference rooms in the elementary school library should be provided for this important function.

In general, the broadened elementary curriculum requires that elementary school libraries include several rooms and areas for varying types of activities with materials, in place of the traditional one room with shelves for books, and tables and chairs for the children.

Changes in School Design

New school design affects school libraries. Many new schools are only one story high and spread out over acres of land. The campus type school provides a unique opportunity to place the school library in a central location, leading to instruction areas. The new Highland High School, Pocatello, Idaho; Newton South High School, Newton, Mass.; and the Holland, Mich., High School are examples of campus schools with libraries in centrally located buildings.

In some metropolitan areas where school enrollments are large, school buildings may be multistory and more compact than the campus type. This may be necessary because of the difficulty of securing sufficient land for the spread-out building. (Another reason for more compact buildings is that they enhance temperature control—heating and air conditioning.) In the multistory design, the school library may be on the second or third floor. Since knowledge continues to grow and demands for instructional materials increase, it is important that the library quarters do not become "hemmed in." It may become necessary to expand the floor area, and this point is important to note for school libraries, especially in multistory, compact buildings.

Increased Volume of Educational Research and Its Importance to Teachers

Educational research affecting instruction has increased at such a tremendous rate that administrators and teachers require ready access to professional literature which reports current research as well as developments and trends. Even in larger school systems having central professional libraries for teachers, current professional literature needs to be available in the individual school library.

*Numbers in parentheses are keyed to the selected references in app. A.

Relating School Library Quarters to the Instructional Program

INCREASING DEMANDS to serve instruction are being made on school libraries today. Modern methods of teaching and learning require increased research, reading, listening, and viewing, thus necessitating new designs for library facilities. The school library is becoming an instructional materials center. Good school libraries have always been that, but today they include many more types of instructional materials. Space must be provided not only for the storage of newer media and equipment and printed materials, but also for new methods of employing materials in teaching and learning.

Although there are some well-planned libraries in new and remodeled schools, the facilities of many school libraries are inadequate for the requirements of today's educational programs. Since good school library programs constitute a fundamental part of elementary and secondary education, all schools need functional and well-designed library facilities.

Importance of Cooperative Planning

To plan for functional library facilities, school faculties need to consider both general guidelines applicable to all school libraries and individual schools needs in library service. Even though new teachers use different methods, school programs change, and school buildings are often reassigned to a different grade level, the program of the individual school must be considered in planning new or remodeled school library quarters.

Principals, supervisors, teachers, and librarians should convey to architects the functions of the school library so that facilities can be planned to accommodate needs. Teachers often have highly creative ideas for school library use which can be translated into imaginative and functional school library quarters. A continuing relationship between the school faculty and the architects should be maintained throughout the planning and designing of the school library.

State supervisors and librarians suggested the following ideas to keep in mind when planning school libraries:

- The principles and objectives for the library in service to teachers and pupils must be well established *before* the architect starts to work.
- Many libraries should be visited before planning one.
- In building a library program and providing for quarters, start where you are and move as you can.

Use of School Libraries

It is also essential that school library planners have an understanding of the use of library facilities. Many school libraries serve hundreds of pupils each day. Therefore, school libraries should be planned for great flexibility of use by teachers and pupils—all day, every school day, and, in some schools, evenings and Saturdays. This use may include:

- Independent use by teachers and pupils.
- Scheduled classes for particular purposes—class research; guidance in reading, listening, and viewing; library instruction.
- Group use by teachers and pupils for conferences and projects.
- Use by teachers and pupils of collections of library materials in classrooms, laboratories, department libraries, and at home.

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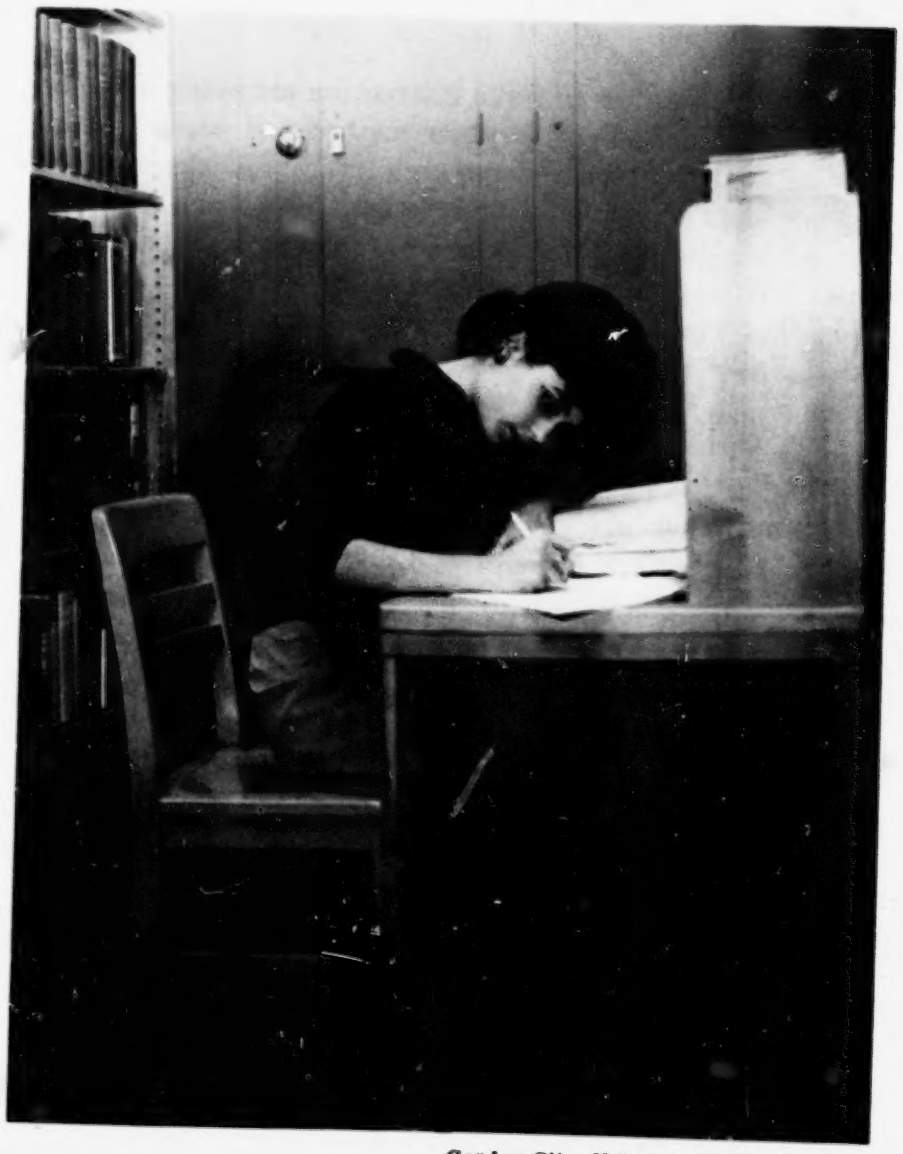
Innovations in Library Service and Design

The effect of new trends and revised instructional programs in secondary education on library design was seen in the new and remodeled high school libraries visited. Some of the libraries reflected more than one trend, but only outstanding examples are cited.

Use of carrels.—Because of the emphasis on language arts in the Myers Park Senior High School, Charlotte, N.C., the library is in the language arts building, centrally located in a campus-type plan. It has carrels on the mezzanine for private study and a listening booth on the first floor.

In the 1,500-pupil Central High School, Oklahoma City, Okla., the library is located on the second floor of a 3-story building. The original library has been enlarged, taking in the area of adjoining classrooms. This expansion was necessary, the librarian said, because of the general demand for increased library services with new types of materials. Conference rooms are constantly in use for small seminars. Individual carrels are in demand for student study. Space and equipment for previewing, testing, and constructing materials are available.

Provision for instruction in library research techniques.—The new emphasis on independent study, particularly for the more able pupils, implies the need for increased competence in library research techniques. Beyond lessons in the general use of card catalogs and general reference materials, high school pupils need advanced instruction in the use of subject headings and specialized reference materials for research in science, social studies, and other areas of the curriculum. This instruction is more meaningful and convenient if given in the library, yet it cannot be given in the reading room without seriously inconveniencing other library users. Often a teacher may wish to take her entire class to the library classroom for a laboratory period, where needed materials are readily available and a maximum of oral explanation and class discussion is possible. For these purposes, a library classroom is often an important part of the school library suite. (See floor plan, including a library



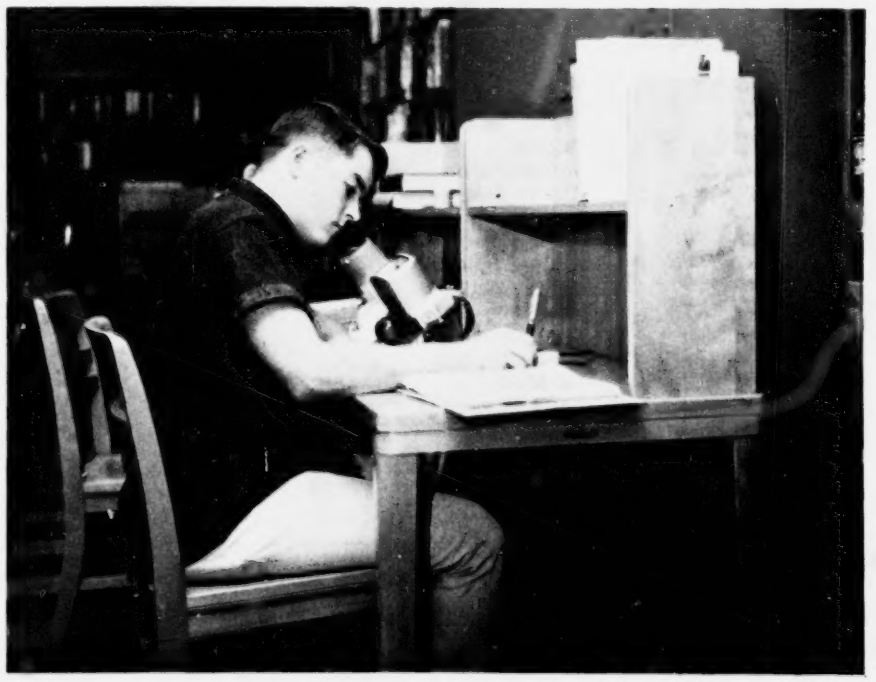
Garden City, N.Y., Senior High School

Carrels for individual study are becoming a part of many new and remodeled libraries.

classroom, Burlington-Edison High School, Burlington, Wash., p. 11.)

The library of the Senior High School, Garden City, N.Y., was planned by the librarians and teachers to include a library classroom because of the intensive program in teaching library research techniques to 12th-grade social studies pupils. This classroom can be divided by a movable wall into two conference rooms, and the space is in continuous use, either for library instruction or conferences.

Emphasis on service to departments.—In providing for service to secondary school subject departments, the centralized library may be planned on the basis of a subject or departmental division of materials, e.g., one section for social science materials, another for science, and another for language arts. Some schools are abandoning study halls but still retaining the 45- or 50-minute period for each class. In these schools the library can be used voluntarily by pupils only before and after school. Therefore, if the library is going to serve its purpose, it must accommodate classes or groups from classes during the school day. The library of York Community High School, Elmhurst, Ill., is an example of a departmentalized centralized library. This library is on two floors and has five large components—a general reading room and separate sections for social science, language arts, foreign languages, and guidance materials. Thus, at least four classes can be accommodated at the same time with no conflict in space and no traffic problem. New Trier, Ill., Township High School Library is another good example of a departmentalized library with four reading rooms, each serving a different department. Librarians who are subject specialists serve each of these department collections.



Garden City, N.Y., Senior High School

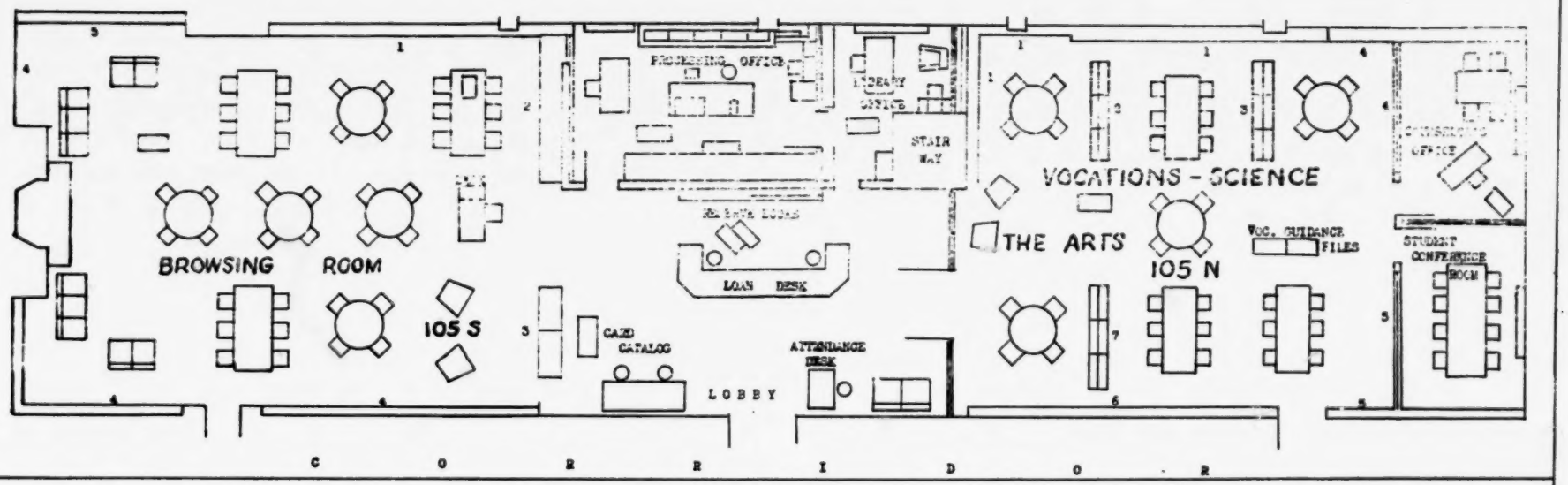
The other and newer form of school library service to departments is the development of department libraries, or "resource centers," or "branches." The Educational Facilities Laboratories report, *Newton South High School, Newton, Mass.*—one of the series, Profiles of Significant Schools—describes a central library in one building of the campus school with "branches" in each of the other buildings. A few new high schools have been built without centralized libraries and with only "resource centers" as part of departmental suites. For good school library service, the choice is not between the centralized library and decentralized collections, but a combination of both. To keep department library* collections in step with units of study, they should be continually replenished with materials from the centralized library, and materials not pertinent for current units should be returned to the centralized library. There are times when teachers and pupils have occasion to use in the centralized library the materials for previous or later course units in review, preparation, or continuing research. The department libraries should have collections of standard

*For purposes of this discussion, the term "department library" will be used from here on.

YORK COMMUNITY HIGH SCHOOL

LIBRARY

FIRST FLOOR



BROWSING

1. Victrola Records (Faculty Circulation)
2. Current Magazines
3. Fiction
4. Short Story

LEGEND

VOCATIONS, SCIENCE, THE ARTS

1. 700-Art
2. 070-Journalism
   170-Teen-Age Problems
   395-Etiquette
3. 371.42-Vocations (General and Specific)
   College Bulletins
4. College Bulletins
   378-Colleges (Books, Directories)
5. 500-Science
6. 600-Useful Arts
7. 780-Music
   790-Amusements

NOTES: Reference shelved with its particular collection
O Equals Oversize: Bottom Shelves

BN Harding '50

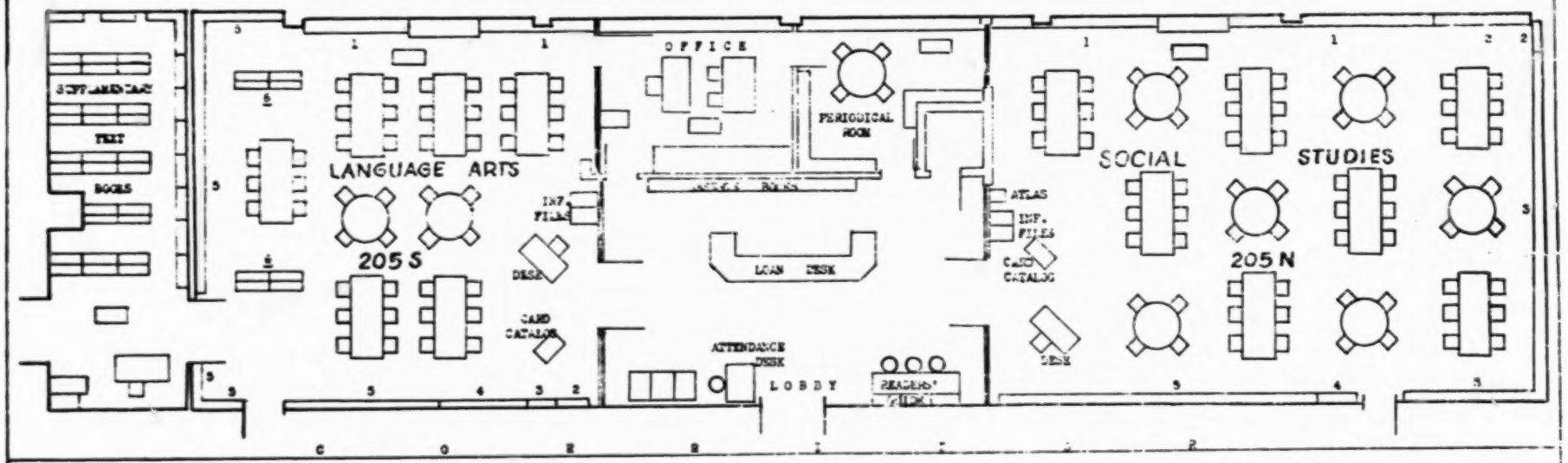
York Community High School, Elmhurst, Ill.

Some large high school libraries are departmentalized, with materials arranged by subject in separate rooms or well-defined areas.

YORK COMMUNITY HIGH SCHOOL

LIBRARY

SECOND FLOOR



LEGEND

LANGUAGE ARTS

1. Reference 031-Americana Encyclopedia
   400-Language Dictionaries
   800-Literary Handbooks
   920-Biography (Who's Who)
   Current Biography, etc.
2. 200-Bible and Mythology (291)
   300-Reading Problems (374.1) Costuming (391)
3. 300-Holidays (394) Folklore (398)
4. 400-Language (History, Word Study, Grammar, etc.)
5. 700-Radio Plays (791.4) Theater (792 etc.)
   800-Literature (Poetry, Essay, Drama, Humor, etc.)
6. B-Ind. Biography
   920-928-Collected Biography

NOTE: O Equals Oversize: Bottom Shelves

SOCIAL STUDIES

1. Reference-031-Ency. Brit. Collier's Ency.
   900-History (Larned History 903)
   Dictionary of American Hist. (973, etc.)
2. 900-919-General History and Travel
3. 930-999-Ancient, European and U. S. History
4. Reference-300-Sociology (World Almanacs, Ency. of the Social Sciences, etc.)
5. 300-Sociology Plus Psychology (100), Religion, History of (200)

NOTE: O Equals Oversize: Bottom Shelves

books, periodicals, and audiovisual materials available at all times. Although department libraries require some duplication of standard works, as do centralized libraries, duplication does not need to be excessive where good principles of selection are employed.

There is evidence that department libraries require assistant librarians to administer them. In a number of new schools, department libraries without librarians have lost their effectiveness because of lack of organization and guidance in their use. Planners of department libraries in new or remodeled school buildings should consider the needs for staffing these facilities.

Library materials in all parts of the school.—Provision is also made in some schools for library materials in the classrooms. Traditionally, school library books and other materials have been loaned to classrooms and other school areas. Industrial arts rooms, home economics laboratories, and classrooms for art and music instruction usually have large classroom collections borrowed from the school library. Classrooms used for English, social studies, sciences, and foreign languages are also equipped with shelving for school library books. Now classrooms also need to be equipped for using films, transparencies, tapes, records, and other audiovisual materials.

Guidance suites have shelves for books and racks for pamphlets and catalogs used in personal, educational, and vocational guidance. Linton High School, Schenectady, N.Y., has attractive and functional equipment for housing and displaying guidance materials.

School library specifications may include, therefore, the centralized library, departmental libraries, and provision for the use of materials in rooms where instruction takes place. It is probably true that department libraries would decrease the amount of shelving needed for materials in individual classrooms; however, those departments of the school which do not have department libraries would need shelving in each classroom. All elementary school classrooms require shelving. Guidance suites and other areas of special service will continue to require equipment for library materials.

Pamphlets and other forms of ephemeral materials are also part of school library collections, and are usually housed in vertical files.

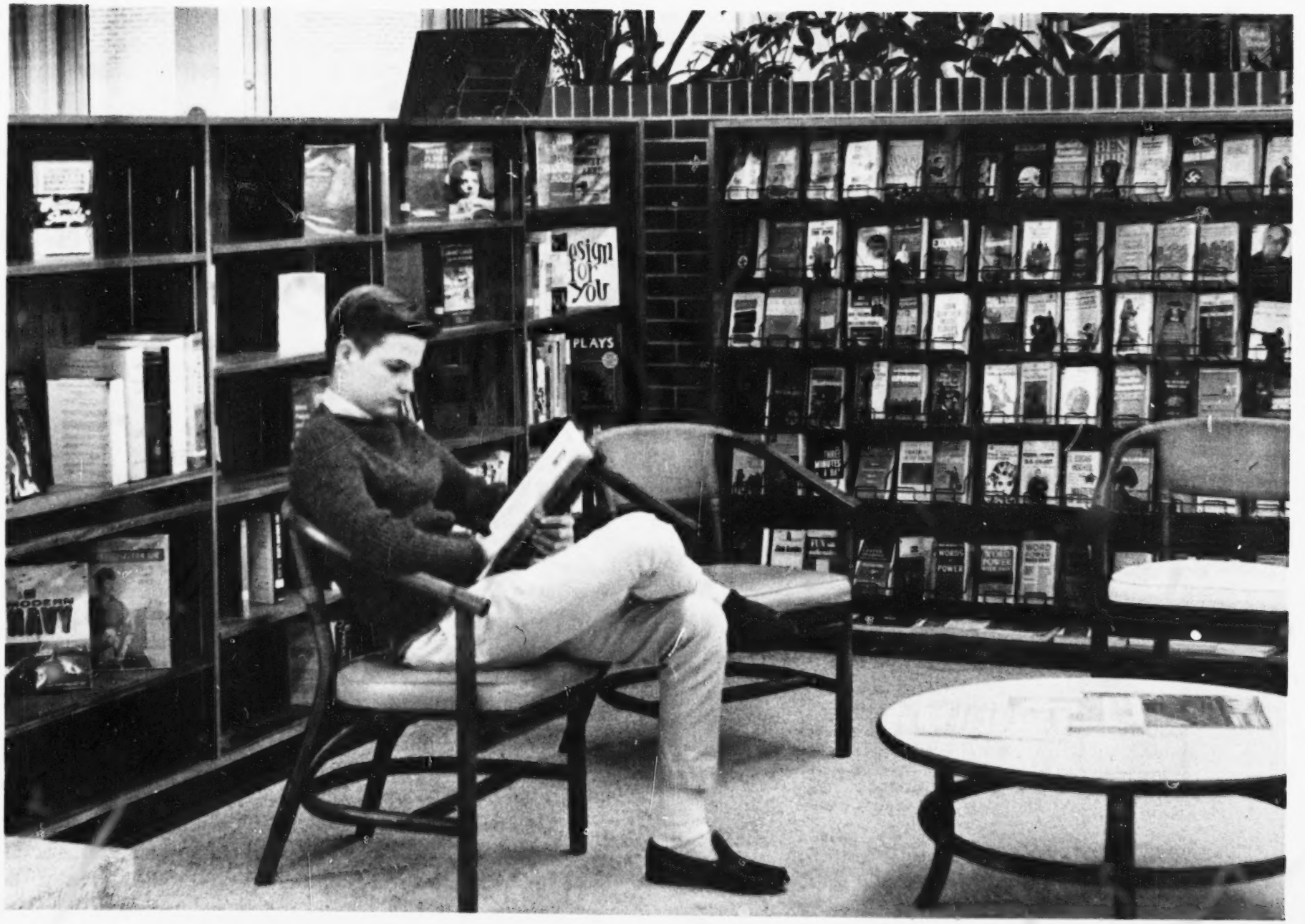
How school libraries are planned—whether in the traditional way with the total collection organized as a unit, or with the centralized library including departmentalized areas, or with a centralized library and department libraries adjacent to departmental suites—depends upon the organization of instruction decided upon by school administrators and faculty. Factors such as size of enrollment and type of program should be considered in making decisions concerning the plan of school library facilities.

Instructional materials and the school library.—The types of materials and equipment which are included in the school library serving as an instructional materials center, and their general requirements for space are:

BOOKS AND OTHER PRINTED MATERIALS

Books are the basic material of school library collections. Most of the library's collection of books should be on open shelves, and available to teachers and pupils. Many reference books, bibliographic tools, paperbacks, and picture books in elementary school libraries require shelving of special dimensions. Some school libraries include textbooks as an auxiliary service. If textbooks are a part of the library's responsibility, they are housed in and circulated from a room adjacent to the library.

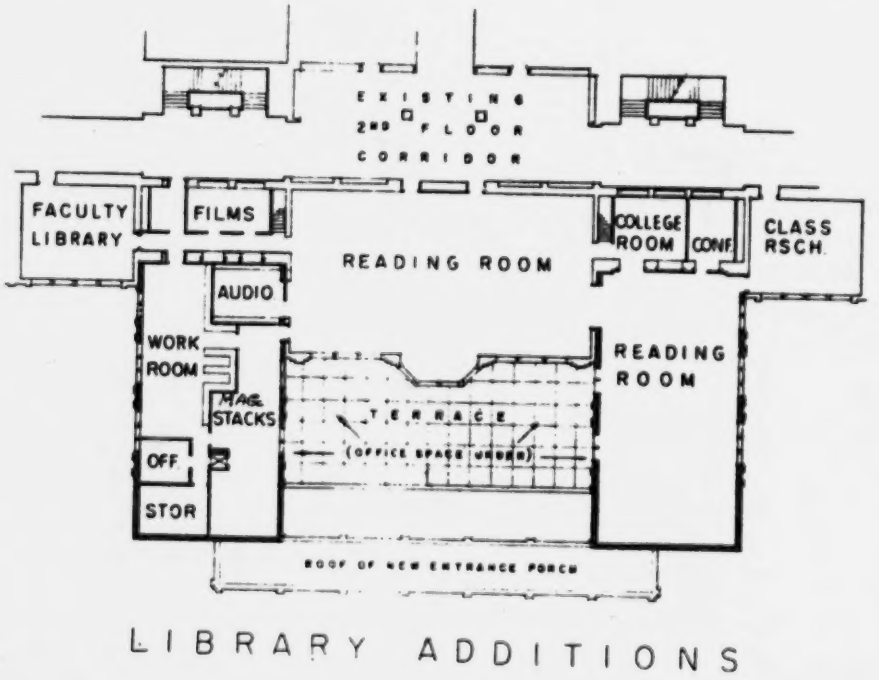
A wide variety of current general and special periodicals related to the curriculum and interests of children and young people are included in school library collections. These are accommodated on specially designed shelves. Files of back issues are maintained in library storage areas. Some school libraries use microfilm for periodical and newspaper files.



Seabreeze Senior High School, Daytona Beach, Fla.

Many school libraries are including paperbound books in their collections and, therefore, need special shelving to display them.

Research and experimentation concerning the potential of audiovisual methods in education have had, and will have, an ever-increasing influence on school library quarters. The growth of the use of language laboratories in foreign language instruction requires the organization and circulation of the tapes used with this equipment. The development of special materials on recordings suited to the oral-aural approach in modern language teaching, and the development of film series for foreign language instruction point to new responsibilities for the storage and circulation of these materials. Space for shelving, storage, and evaluation of new materials must be planned. The expanded use of these types of materials extends, of course, into many areas of the elementary and secondary curriculum besides modern foreign languages, such as English, social sciences, mathematics, science, art, and vocational subjects.



Evanston Township High School, Evanston, Ill.

This library was enlarged and remodeled to serve as an instructional materials center. A balcony, not shown, has book shelves as well as the reading room.

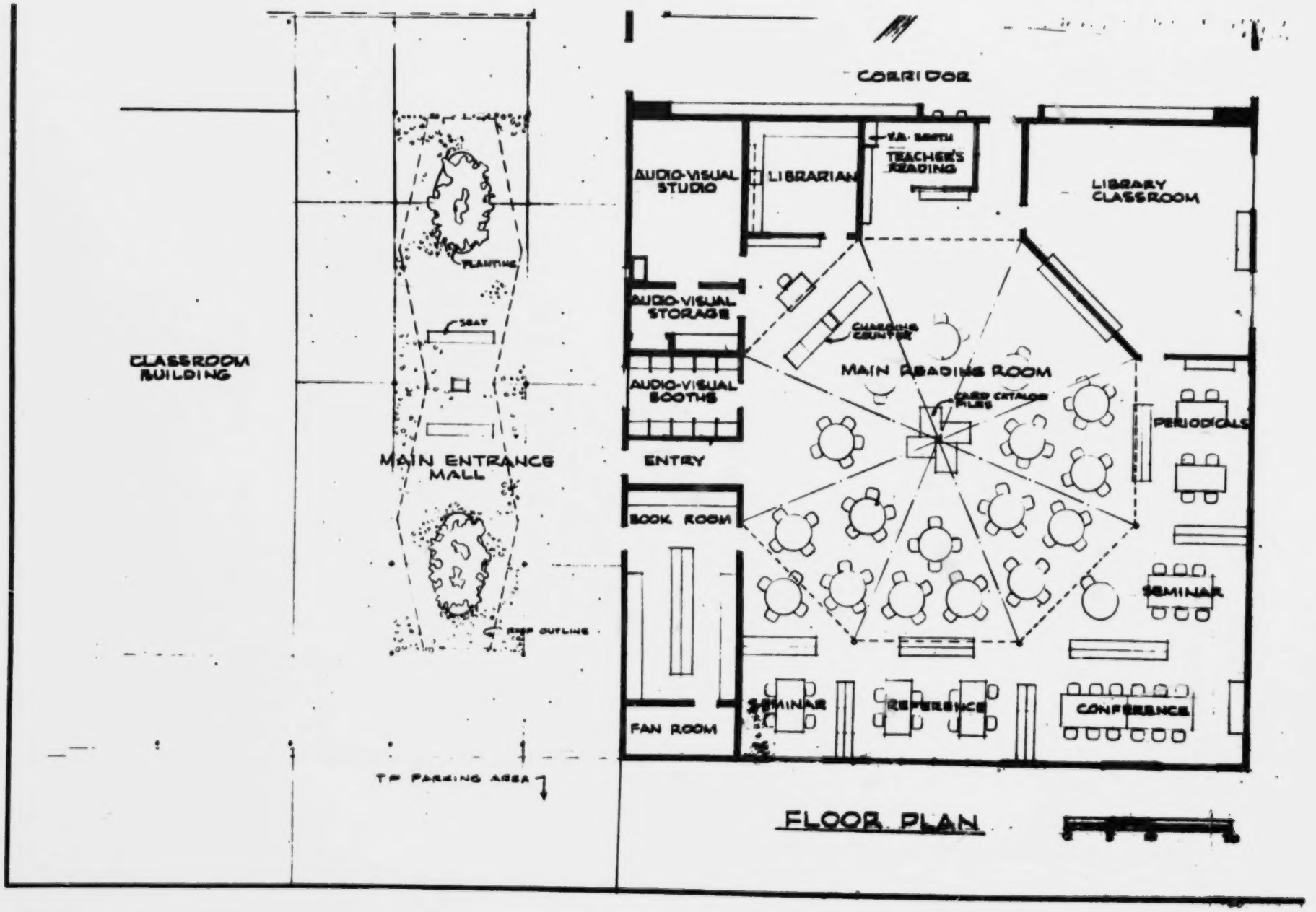
There are many schools with libraries serving as instructional materials centers. Some outstanding examples are: Evanston Township High School, Evanston, Ill.; Burlington-Edison High School, Burlington, Wash.; and Memorial Senior High School, Houston, Tex. (See floor plans of these school libraries, pp. 10, 11, 13.)

The new library in the Grant Senior High School, Portland, Oreg., houses audiovisual materials in space functionally designed for pretesting, construction of instructional materials, and storage. The building is old, but the library wing is new and attractive.

The Senior High School library in Renton, Wash., was converted from a gymnasium. It has a balcony for storage, a large first floor reading room, and space and equipment for audiovisual aids. The school librarian worked closely with the architect on the design.

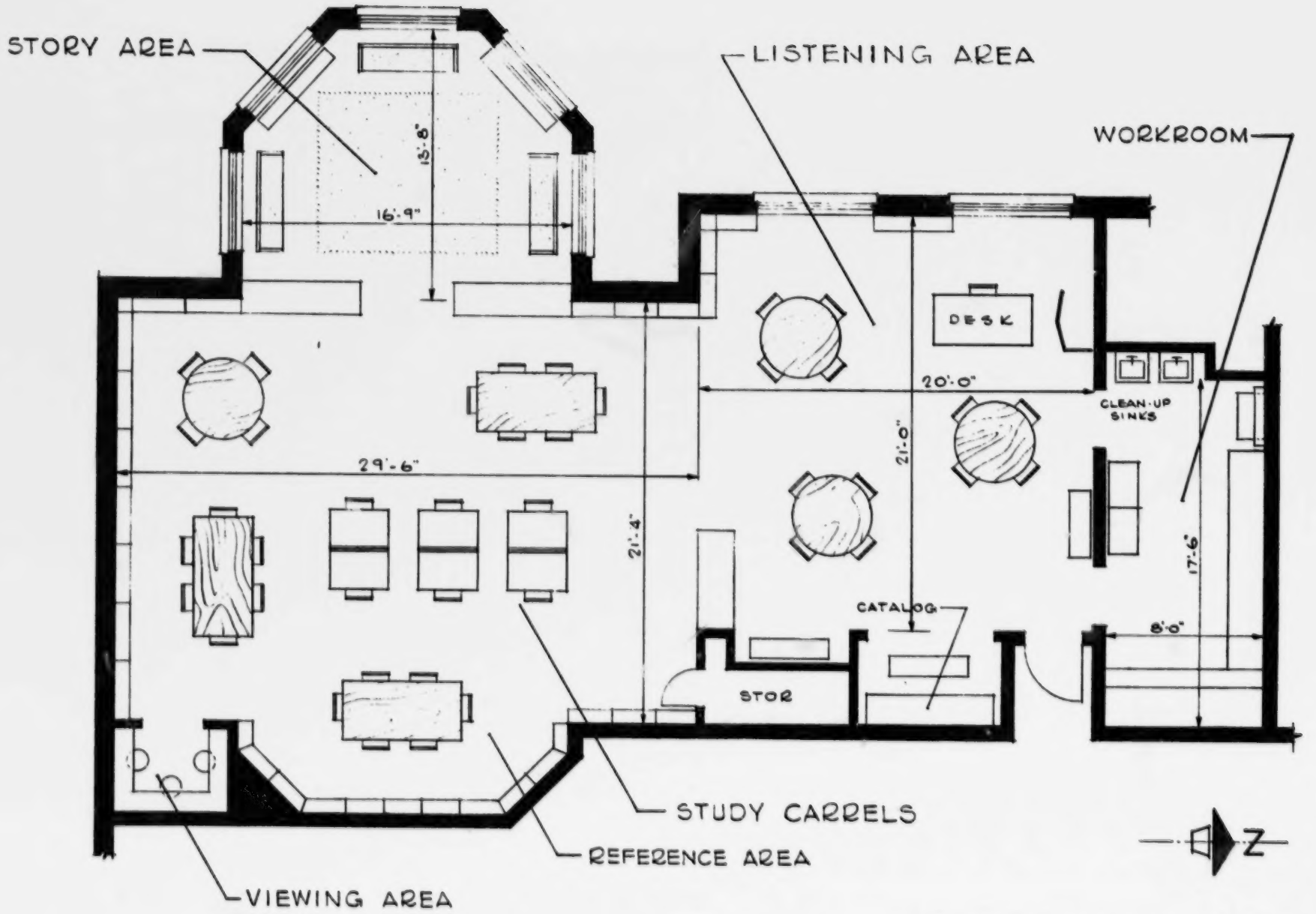
Some school libraries are now including space for the production of materials by teachers—the making of slides, transparencies, and other teaching aids. Some school libraries may also house the programs for teaching machines and be responsible for audiovisual equipment used throughout the school, and in these schools storage space must be provided for this equipment.

If new schools are being equipped for closed circuit television, the library should be included. For orientation programs in the use of libraries, closed circuit television can be an invaluable timesaver. The employment of electronic devices for incidental self-teaching by pupils in the use of the card catalog, *Reader's Guide*, and other indexes in libraries will also require the provision of convenient space for these materials as well as viewers and projectors.



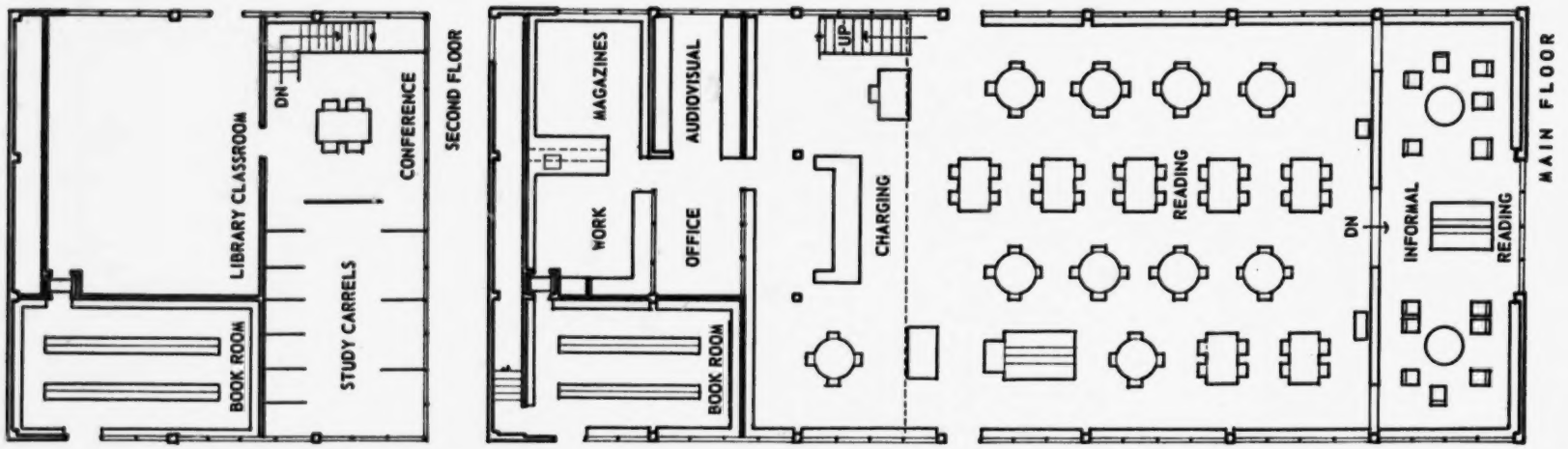
Burlington-Edison High School, Burlington, Wash.

In this instructional materials center, the reading room is surrounded by auxiliary library rooms.



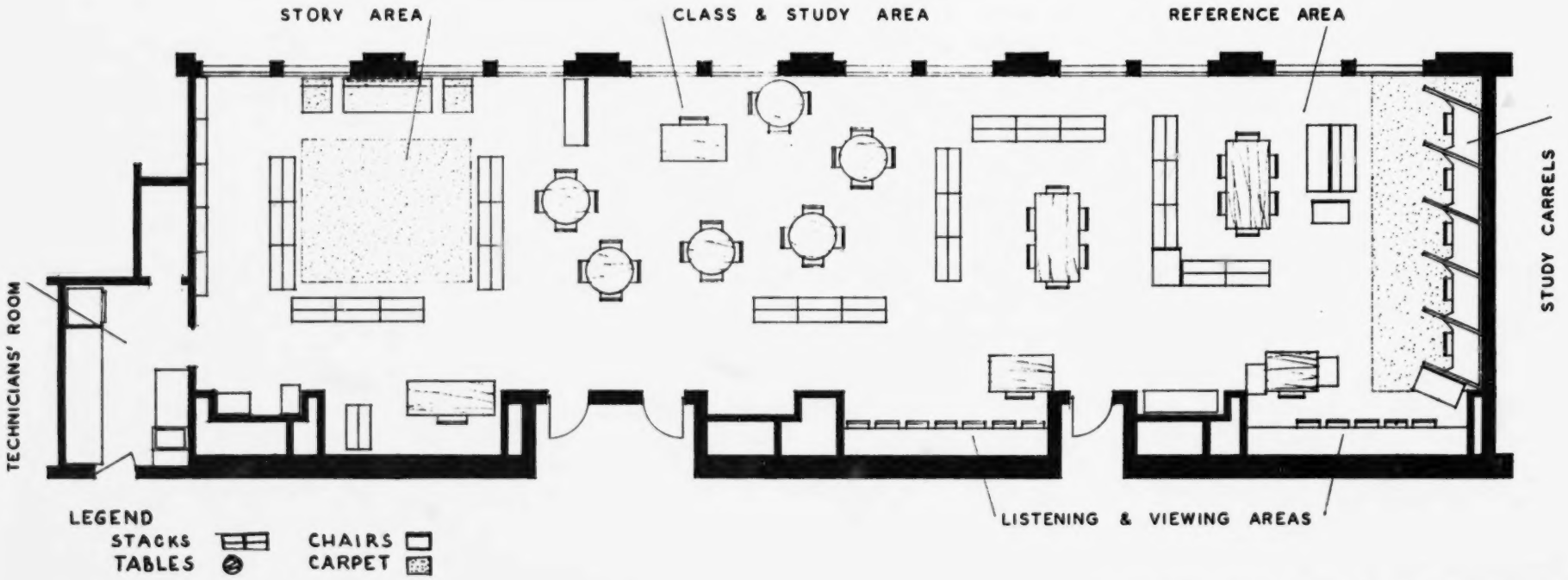
Ludlow Elementary School, Shaker Heights, Ohio

This remodeled, irregularly shaped learning center features spaces for storytelling, listening, viewing, and reading as well as study carrels.



Memorial Senior High School, Houston, Tex.

This instructional materials center has facilities for large group instruction and independent study on the second floor.



Lomond Elementary School, Shaker Heights, Ohio

This elementary school library which was converted from classrooms provides separate areas for storytelling, class and study, reference, listening, and viewing. Note the small study carrels to the far right of the room.

Increased use of library materials in elementary school instruction.—The planning of elementary school libraries to serve a broadened curriculum, and with many new types of materials, was evident in many of the schools visited, as described below.

The library in the Sedgefield Elementary School, Charlotte, N.C., is centrally located among several classroom wings of a campus-type plan. The faculty of this school planned it as an instructional materials center. It is about 1,800 square feet in area and serves 643 pupils in grades 1 through 6. Audiovisual rooms located in the rear of the wing accommodate pretesting, viewing, construction of materials, and functional storage. Rubber wheel carts are used in transferring projectors and supplies to classroom wings. Entrances and exits are conveniently equipped with ramps for the carts. The noise does not disturb the reading or conference rooms because partitions are insulated to prevent disturbing sound transmission.

Since elementary schools formerly were constructed with either very small library rooms or no library, remodeling is often necessary to provide space for the elementary school library to serve as an instructional materials center. Lomond and Ludlow Elementary Schools in Shaker Heights, Ohio, are good examples of remodeled elementary instructional materials centers. (See plans on pp. 12 and 13.)

The location of the library in the elementary school, as in the high school, has a strong effect on the use of the library in instruction. The library of the Paul Dunbar Elementary School, Gary, Ind. (p. 16), occupies the space normally serving as the center corridor. Wide arches from this library open into the fifth- and sixth-grade classrooms so that there is a constant flow of elementary school pupils from the classrooms to the library. These classrooms have doors on the other side leading outdoors.

One of the traditional and continuing activities in the elementary school library is storytelling. In new or remodeled

Homewood-Flossmoor High School, Flossmoor, Ill.

Richmond City Schools, Richmond, Va., Instructional Materials Center

Teachers and supervisors need a convenient room or space for professional materials.

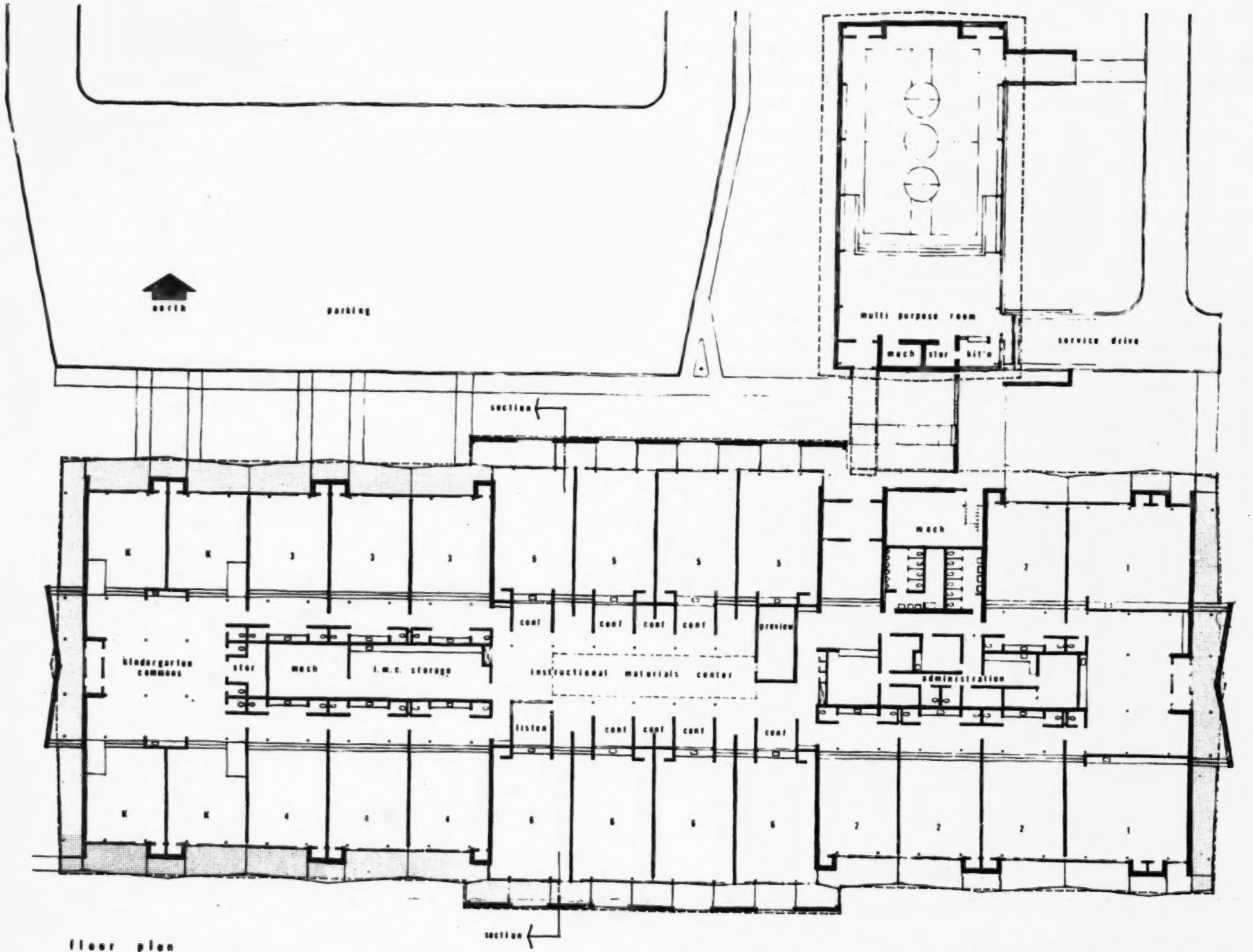
elementary school libraries, a special room should be appropriately designed for this activity. In some schools a patio conveniently located outside the library is also used.

Provision for professional materials for teachers.—So that teachers can be informed of new educational trends and methods, school libraries are including space for professional books, journals, curriculum guides, and examples of new instructional materials. Some schools provide a browsing area in faculty rooms; others set aside a part of the school library for professional materials for teachers. Some schools prefer the latter arrangement because the school library area is quieter and more conducive to study. The library of the high school of Shaker Heights, Ohio, has a separate room for professional materials for teachers. In addition to shelving for books and journals, this room also has equipment for previewing audiovisual materials, and desks, tables, and chairs for teacher use.

New school design and school libraries.—Changes in school design, such as the introduction of campus-type schools and the use of new construction materials in interiors, have produced some unusual and beautiful school libraries. The extensive use of glass to avoid the claustrophobic atmosphere of some traditional schools and give schools a feeling of communion with the out-of-doors, however, has cut down drastically on shelving space in school libraries and introduced serious problems with glare. Nevertheless, many new schools have attractive libraries with moderate amounts of glass which provide for good light and allow adequate shelving.

Jefferson High School, Cedar Rapids, Iowa, is a 57-teacher school located on a 35-acre site. It has a pleasing library, centrally located with reference to academic classrooms, which the principal says is the learning center of the school. A light ceiling of acoustical plaster reflects light from the recessed incandescent lamps. Clerestory, clear glass windows on the southwest provide additional light, but create some heat and glare problems. (These could have been prevented by using low transmission glass.) The interior walls are finished with redwood, and the floors are covered with colored asphalt tile. The auxiliary rooms include work and conference rooms, and a magazine room—all conveniently located and arranged for easy supervision and service. The library classroom, used largely by pupils for special research, is attractively decorated and equipped for audiovisual teaching aids.

Library quarters in compact buildings may have an interior location with no outside light; but with improved artificial lighting, air conditioning, and careful selection of colors and equipment, such facilities may be attractive and comfortable. When the library is on an upper floor, the design should include book lifts and, in some situations, elevators. Such equipment is important for efficient administration of the library in this type of building.



floor plan

Paul Dunbar Elementary School, Gary, Ind.

An instructional materials center should be conveniently located with reference to classrooms.

Guidelines for Planning School Libraries

THE ESSENTIAL REQUIREMENTS for the modern school library are set forth in this chapter. The quantitative specifications are based on those presented in *Standards for School Library Programs* (2) and in standards for school libraries developed by State departments of education. These specifications are used by reputable manufacturers of library equipment and furniture.

The following general characteristics should be taken into consideration in planning school library facilities.

Location

Since the school library services the curriculum, it should be central in relation to the instructional areas. It may occupy one central wing of a group of wings, the middle wing of an E-shaped structure, or a semidetached wing tied by a corridor or covered way to the instructional area. The library—if used after school hours, on Saturdays, or during summer vacation—should be on the ground floor with a separate outside entrance. It should be away from the gymnasium, the playgrounds, music quarters, shop, and other areas with noisy activities. Stairwells and rooms with plumbing equipment should not be adjacent to the school library if they would block expansion.

Of the 73 schools visited, 57 were located on the first floor, 16 were on the second floor—to be near academic classrooms; 62 were centrally located in the floor plan; others were accessible, but away from the academic center; and 45 of the school libraries were situated so that they could be expanded when necessary.

The library of Leroy Martin Junior High School, Raleigh, N.C., is centrally located in a 1-story building. It is a complete suite of rooms and has equipment for audiovisual services. Audiovisual areas are so located that noise does not interfere with the quieter areas of the library, and these areas can be entered from the corridors without going through the reading rooms.

Other suggestions for location of the school library were made by school library supervisors and librarians:

- The library should adjoin a classroom for possible expansion.
- Out-of-door reading areas may be desirable in warm climates.

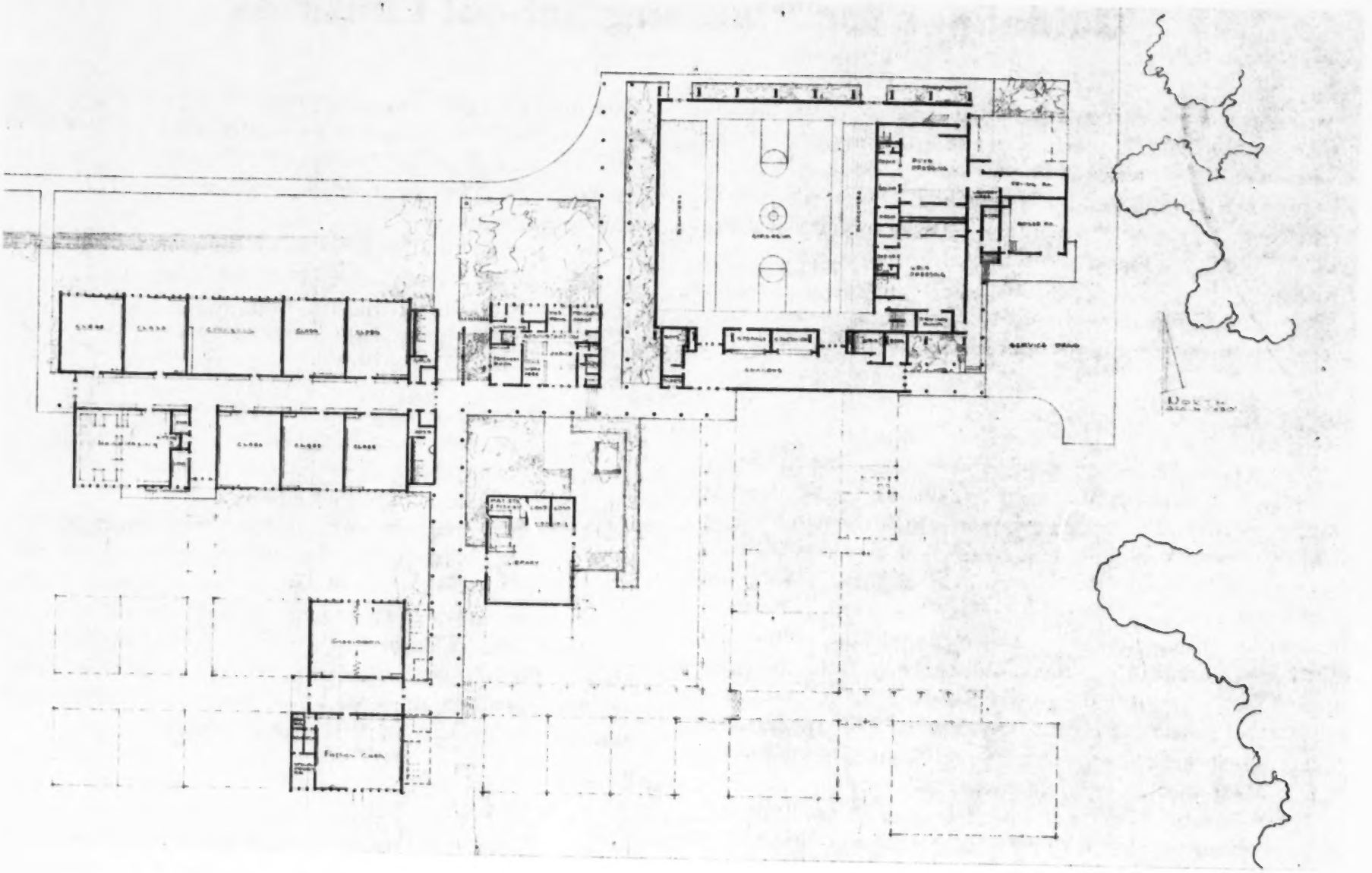
Size

The size of the library is determined by the school enrollment and the nature and extent of the library's collection of materials. The total area of the library suite is greater if the collection includes audiovisual materials.

In schools visited, areas of libraries varied widely, particularly in secondary schools. In elementary schools of 500 to 1,000 enrollment, the area in square feet of library quarters varied from 1,000 to 1,800; in junior high schools, from 1,000 to 10,000; and in senior high schools, from 2,000 to 10,000. Most of the libraries with comparatively large areas were in secondary schools of large enrollments and had extensive materials collections, including audiovisual.

Shape

The library may be any shape that is functional. Long, narrow library quarters are not recommended since they are difficult to administer and are unattractive. Hexagonal, octagonal, and round libraries have aesthetic appeal, but this factor should not be the only determinant of the shape of a school library. Most of the libraries visited were rectangular, either square or approaching a square in shape. A few were L-shaped.



Pleasant Hill Senior High School, Creswell, Oreg.

The school library should be convenient to academic classrooms and away from noisy activities.

Rooms and Areas

A functional school library and its related areas should include one or more rooms or space for each of the following:

- A reading room with open shelves for books, including paperbacks, and periodicals. Carrels may be part of the reading room.
- Space or a room for teachers' professional materials, with accommodations for seating.
- A conference room.
- A library classroom; in elementary schools, a room for storytelling.
- Listening and viewing room.
- Storage area for audiovisual materials and equipment.
- A room or space for preparing instructional materials.
- Librarian's office.
- A library workroom.
- Space for textbooks.
- Storage space for printed materials.
- Department libraries.
- Space for library materials in classrooms.
- Space for library materials in special service areas.
- Carrels.

Suggested space and equipment for each of these rooms are discussed below:

Reading room.—It is necessary for planners to study the instructional methods of the school as well as enrollments before recommending reading room dimensions and arrangement. One good method for determining space required after studying the program is to draw a layout to scale of the proposed reading room and then, by using templates, set up the equipment in the room, allowing space necessary for seating, services, equipment, and materials.

The size of the reading room is usually based on enrollment, seating 10 to 15 percent of the enrollment in schools having 551 or more pupils; and 45 to 55 pupils in schools with enrollments of 200 to 550 pupils. For effective supervision and service, not more than 100 pupils should be seated in one reading room. In schools scheduling more time for independent study, the percentage of pupils to be provided for may be much higher than 10 to 15 percent and, therefore, more than one reading room may be necessary. In most schools, reading rooms allow 30 to 35 square feet per reader. This dimension allows sufficient space for tables and chairs for library users; other library furniture, such as circulation desk, card catalog, and vertical files; and space between items of furniture for shelving and traffic.

If the centralized school library is departmentalized, then the dimensions of each department's area should be determined on the basis of the number of pupils to be seated, as for the general reading room.

The reading room should have shelving for at least three-fourths of the book collection and special shelving for current magazines, reference books, and, in elementary libraries, picture books. The reading room may also include carrels.

The Wilmington, Del., High School library has a large reading room with 2,585 square feet of floor area. Shelving in the reading room is arranged so that pupils can be easily supervised. All shelving away from the walls is counter height, and there is ample space between tables for free movement of pupils.

If the reading room serves both elementary and secondary school pupils, each group should have its own reading area, separated by counter-height shelving or some other form of divider. In an elementary school library, the primary grades (K to 3) may have a special area with furniture and shelving scaled to size.

The library reading room should not include monumental architecture, such as vaulted ceilings, or elaborately decorated windows. It should be a friendly, informal place

Nicolet High School, Glendale, Wis.

Library reading rooms should be spacious, well equipped with comfortable furniture, and have good light.

with a minimum of distractions for the reader. The best way to achieve this atmosphere is to break up large areas of space with room dividers, such as counter-height shelving, to give the illusion of privacy without being high enough to interfere with supervision. A browsing area furnished with comfortable chairs is usually included in the reading room.

Equipment for the reading room includes the following: Atlas case, book shelving, book trucks, bulletin boards, card catalog, chairs, charging desk, desks for carrels, dictionary stand, display cases, magazine shelving, newspaper racks, tables, and vertical files.

Space for teachers' professional materials.—The room or space for teachers' professional materials should be attractively appointed with informal furniture. It should have table and chairs, a desk and chair, magazine rack, one pamphlet file, and storage space for materials and equipment.

Conference room.—Small groups of pupils or teachers working on projects or reports need a conference room. It preferably opens off the reading room and has glass partitions. It usually contains one long table, chairs for 8 or 10 persons, a small chalkboard, a bulletin board, and one standard shelving unit. It may also include equipment for listening and viewing, and should have adequate sound controls for the use of audiovisual equipment. Two conference rooms may have a folding wall between them so that they may be used either as one or two rooms or as a library classroom. Obviously, schools which emphasize group and committee work will need more conference rooms in libraries.

Library classroom.—This room should be furnished with regular classroom furniture, a chalkboard, bulletin boards, a unit of shelving, and audiovisual equipment. It should have an entrance into the main reading room.

Room for storytelling.—The room in elementary schools for storytelling may be furnished with children's small benches, chairs or cushions, window seats, or risers.

Seaview Heights Elementary School, Alderwood Manor, Wash.

Conference rooms should open off the reading room and be separated by glass partitions.

Room for listening and viewing.—The library should provide a place for teachers and pupils to view films, filmstrips, and slides, and to listen to phonograph records and tape recordings. There may be one or two listening booths along one wall so that a variety of activities can be carried on at the same time. The room should be soundproofed and capable of being darkened. It should be adjacent to the audiovisual storage space, and it need not have windows. Items of equipment for this room are chairs, closed circuit television equipment, projection screens, projectors, record players, shelving, stands for equipment, and a table.

Storage area for audiovisual materials and equipment.—This area should have cabinets for films, filmstrips, tapes, and recordings. It should also house equipment such as mechanical copying machines, micro readers, mobile phonocarts, projectors, record players, and tape recorders, and have a work counter. If the library houses all the audiovisual equipment used in the school, space must be provided for the number of machines needed for instruction. Re-

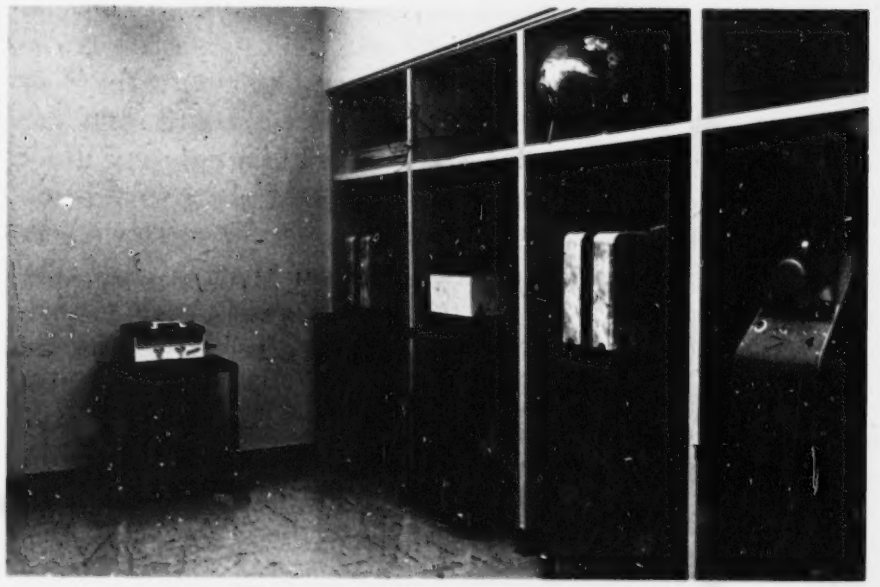
Renton, Wash., High School

School libraries need an area where large and small groups of pupils can view films.

Judson Junior High School, Salem, Oreg.

Ludlow Elementary School, Shaker Heights, Ohio

This corner of the elementary school library is used for listening.



Evanston, Ill., Township High School

Storage space is provided for audiovisual materials and equipment in the functional library.

cessed storage areas, as used in the Judson Junior High School Library, Salem, Oreg., are convenient (see illustration on p. 22). The size of the storage area for audiovisual materials and equipment will depend on the amount of audiovisual materials and equipment administered by the library.

Space for preparing instructional materials.—The school library should include an area for reproduction of printed materials and for the production of transparencies and overlays, slides, models, and other materials not readily available from commercial sources. Often a photographic dark room is included in this area. Schools using closed circuit television may provide a studio adjacent to the production area.

The materials production area should contain a sink with hot and cold running water, storage cupboards, work counters, duplicating and photo reproduction machines, dry mounting press, drawing boards or tables, and drawing materials.

Librarian's office.—The librarian's office need not be large, but should provide space for the librarian's desk and chair, two or three chairs for visitors, a card catalog unit for shelf list or order file, a vertical file for business records, a typewriter table, and one unit of shelving. It should have a coat closet and a private lavatory. The office is ideally placed near the entrance to the library and near the circulation desk, and should be enclosed in glass to facilitate supervision. In some small schools it may be necessary to combine the librarian's office and the workroom, in which case it should contain a work counter and a sink.

Workroom.—A workroom for the technical processing of books and other materials is a part of the basic library area. It must contain a sink with running water which may be built into a long water-resistant counter with storage cabinets underneath. There should be space for water-resistant worktables; a typewriter table and chair; a shelf list cabinet;

Lakeview, Oreg., High School

The school librarian's office is a place for work and consultation.

and an oversized cabinet with drawers, 24 by 36 inches or larger, for storing posters, pictorial maps, and other display materials. All wall space should be used for shelves or cupboards, with at least one double electric outlet in each wall. In school systems providing a centralized technical processing service, the workroom specifications may be modified.

Space for textbooks.—If the distribution of all textbooks is a part of the library's function, a separate room should be provided with shelving to accommodate all the textbooks when not in use. (Three feet of shelving can accommodate 30 books of average size.) The textbook room should have a counter window or door opening onto a main corridor. It should include a desk equipped to store card records.

Storage areas for printed materials.—One of the functions of the library is the storage of infrequently used books, duplicate copies, periodicals, and periodicals on microfilm. Stor-

Spartanburg, S.C., High School

Counter-height shelving allows for supervision and may be used to advantage as space dividers.

age space for supplementary textbooks is also necessary in some school libraries. (Sample textbooks are usually included in teachers' professional collections.) The size of the storage area and the amount of shelving to be provided are determined by the nature and size of the library's collection. The storage area for printed materials should be adjacent to the reading room and the charging desk.

Department libraries.—There are no standard specifications for department libraries. A room of 1,200 square feet would provide adequate space for shelving 2,000 books (about 200 feet of linear shelving), a magazine rack, storage cabinets for audiovisual materials, 4 or 5 carrels, and 6 library tables with chairs seating 24 pupils. It would also provide space for a teacher's desk and chair and a pamphlet file.

Space for library materials in classrooms.—Provision should be made for accommodating materials in classrooms as well as in laboratories, shops, business education and home economics rooms, and science laboratories.

Space for library materials in special service areas.—Provision also should be made for accommodating library materials in quarters such as guidance suites, physical education offices, and rooms for school nurse, psychologists, and social workers. Administrative quarters also need space for materials.

Furniture and Equipment

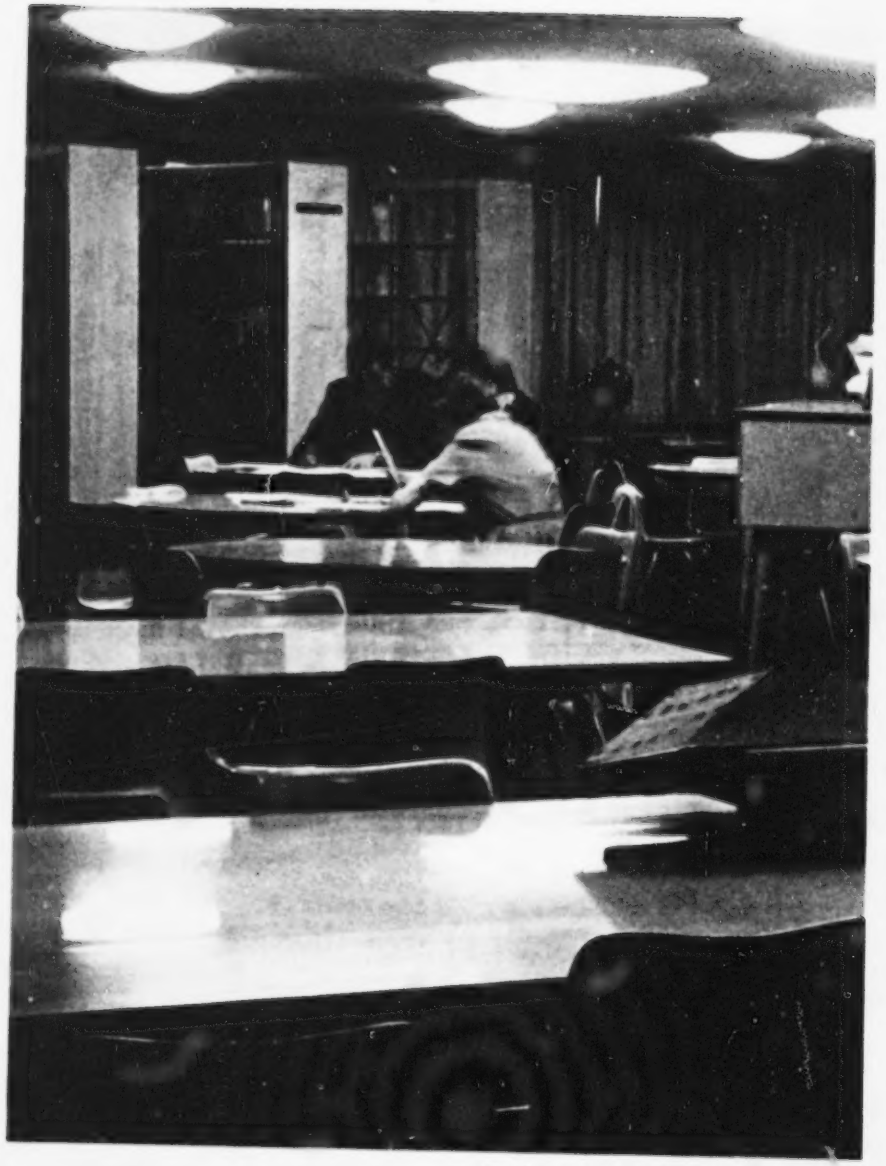
Furniture and equipment in a school library should accommodate the program of library service, suit the physical stature of the pupils who are to use the library, and fit the space available. Library furniture should be purchased from a reliable firm specializing in standard library equipment.

Book shelving.—Book shelving should line all available wall space in the reading room and be sufficient to accommodate at least three-fourths of the collection: 6,000 to 10,000 books in schools with 200 to 299 pupils, and at least 10 books per pupil in schools with 1,000 or more pupils. All books on open shelves should be within easy reach of the pupils. When perimeter shelving is parallel to window walls, shadows make it difficult to read titles on lower shelves unless lighting is planned to eliminate this problem. Additional floor space will be required when shelving forms alcoves. Generous aisles are essential if pupils in search of books or magazines are not to be discouraged by equipment blocking the passage.

Albany, Ga., High School

A workroom with a sink, work areas, and a typewriter desk or table is essential for processing and mending books and other materials.

Planners should also provide adjustable shelving for adaptability to different sizes of books. In elementary schools the accepted standard for height of wall shelving is 5 to 6 feet, while in high schools is it 6 to 7 feet. In regular shelving the width of each section or center should be 3 feet and the depth 8 to 10 inches (10 to 12 inches for



Senior High School, Newark, Ohio

Manhattan, Kans., High School

School libraries should provide facilities for current magazines, newspapers, dictionaries, atlases, and bibliographic tools in the reading room.

West Leyden High School, Northlake, Ill.

North Central High School, Indianapolis, Ind.

Evanston Township High School, Evanston, Ill.

Lister Elementary School, Tacoma, Wash.
Picture book shelving should be functionally planned and designed.

oversized books). The thickness of shelves is usually $^{13}/_{16}$ of an inch. The depth of slanting shelves for current periodicals should be 16 inches; straight shelves, 12 inches. Shelving for stored issues of periodicals should be 12 to 15 inches deep. For elementary school picture books, the dimensions of shelving should be: Depth, 12 inches; space between shelves, 14 to 16 inches; and quarter-inch upright partitions, 7 to 8 inches apart. The capacity of 3-foot shelving, when full, is: Average-sized books, 30; reference books. 18; and picture books, 60. For phonograph records, the depth of shelves should be 16 inches; space between shelves, 14 inches; and space between shelves for oversized records, 18 inches.

Magazine shelving and newspaper racks.—Two or more sections of wall shelving may be adapted for magazines and newspapers. Shelving for magazines should be sloping with molding to hold them in place. Newspaper racks should have notches for holding the files or copies of papers attached to a stick. When it is not possible to incorporate such facilities in the shelving, free standing racks may be used.

Dictionary stand.—A combination stand for atlases, unabridged dictionaries, and large reference books is used in some schools. Other schools use another type of dictionary stand—44 inches high, 21 inches wide, and 15 inches deep, with sloping top and shelves below. The same type, somewhat lower, may be used in elementary schools. A revolving type for use on a table is used in many schools.

Stands for bibliographic tools.—Provision should be made in the school library reading room for bibliographic tools, consisting of large cumulative index volumes. They should be on wide slanting shelves with a flat top, sufficiently low to be used as work areas.

Charging desk.—Standard equipment for libraries includes a flat-top charging desk, placed near the main entrance, which is equipped for filing book cards and storing circulation equipment and returned books. A desk of a standing height of 39 inches is recommended for high schools and one of a sitting height of 30 to 32 inches for elementary schools. The shape, size, and finish will vary with the library, depending on the space available and the color and styling of the other furniture. There should be a comfortable chair of appropriate height for the desk.

Book trucks.—Small movable trucks—equipped with swivel, rubber-tired, 5-inch wheels—are necessary equipment in a library. These are usually located near the charging desk, readily available for transporting books.

Card catalog.—The card catalog case is most important as an index to most printed and audiovisual materials in the library. It should be of the sectional type so that it can be expanded as needed. The number of drawers required will

York Community High School, Elmhurst, Ill.

Renton, Wash., High School

Functionally designed shelves for current magazines and storage area for back issues of periodicals are provided in the well-equipped library.

depend on the size of the collection. The number can be estimated by allowing 1,000 cards per drawer. The cabinet should be bought from a reliable furniture firm because card stock is precision-cut by centimeter measurement.

Filing cabinets.—Legal-sized filing cabinets for information files are required in school libraries.

Display equipment.—Eye-level bulletin boards, light-colored corkboard or pegboard, should be provided for displays. These may be fitted into space between windows and bookcases. Glass wall cases outside the library room are also useful for display.

Tables.—A mixture of round and rectangular tables lends an air of informality and makes different arrangements possible in the library reading room. The tables should be of varying heights suitable to the size of the users. Rectangular tables may vary in length from 5 to 6 feet, and the width should be 36 inches. The height of elementary school library tables should be between 25 and 28 inches; junior high school library tables, between 27 and 30 inches; and senior high school tables, 29 and 30 inches high. Round tables should be 4 feet in diameter.

Chairs.—The library should have sturdily constructed chairs, attractively designed for school libraries. The height of chairs for the elementary school library usually ranges from 14 to 17 inches; for the junior high school library, 16 to 18 inches; and for the senior high school library, 18 inches.

Carrels.—These areas for individual study need a small desk, a chair, and in some instances electronic equipment for viewing and listening. The use of carrels may reduce the number of tables required. Carrels placed at intervals near shelves of books and other materials are attractive and conducive to study.

Suggestions for carrels in instructional materials centers are proposed in *Planning Schools for New Media* (8) and *The School Library: Facilities for Independent Study in the Secondary School* (10).

Pertinent Suggestions on Planning

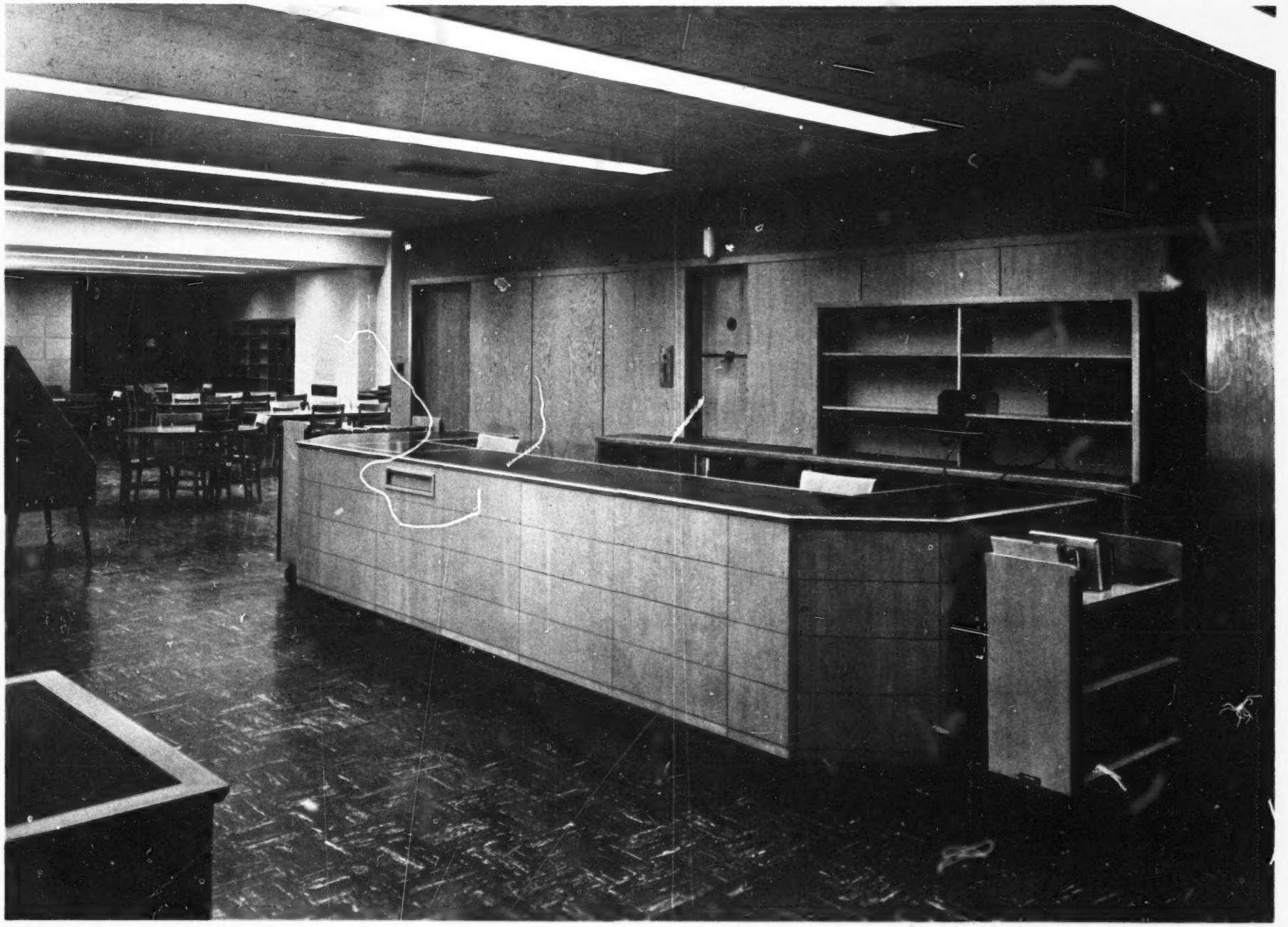
The following suggestions for planning functional library facilities were made by State school library supervisors and librarians in the schools visited:

- Arrange library facilities for their functions, carefully working a traffic pattern around the charging desk, card catalog, reference books, and reserve books.
- Make entrance to as well as exit from library as easy as possible.
- Build outside book drops for convenience in returning books and for lost book recovery.
- Plan for versatility in conference rooms.
- Provide wall-type display cases in corridor.
- Provide display boards and cases to encourage pupils to read.
- Provide library rather than classroom-type chairs and tables.
- Have some individual study tables (carrels).
- Purchase movable equipment to accommodate changes in service.
- Have water-resistant tops on all work areas.
- Utilize maximum wall space for open shelves.
- Provide counter-height shelving, aside from reading room walls.
- Utilize space under window sills for shelving, if feasible.
- Select shelving suitable for sizes of books and users.
- Provide adjustable shelving.
- Provide space and shelving for teachers' materials.
- To ensure sufficient storage, provide adequate cabinets for specific needs.
- Provide textbook storage outside the reading room.

Ludlow Elementary School, Shaker Heights, Ohio

Elementary school pupils in this learning center use carrels for independent study.

- Provide storage for back issues of magazines for at least 5 years.
- Provide storage for large pictures and other flat materials.
- Soundproof a room for making recordings.
- Install earphone listening stations.



York Community High School, Elmhurst, Ill.

This U-shaped charging desk can accommodate the various activities for providing materials to teachers and pupils.

Mountlake Terrace, Wash., Senior High School

Counter-height sectional card catalogs may be arranged for use on several sides at the same time.

Conditioning of Space for Library Quarters

THE EDUCATIONAL USEFULNESS of the school library is largely dependent upon proper light, temperature, sound control, aesthetic appeal, and adequate space. Careful and scientific attention should be given to these factors for the safety and comfort of users of the library. Services and equipment should be designed for future as well as present programs. Planners and designers should ask themselves what effect, if any, anticipated adjustments would have on light, temperature and sound control, and aesthetic factors.

Lighting

The goal in school lighting must be to allow pupils and instructors to see comfortably and efficiently without undue distraction. An adequate level of illumination for efficient performance of visual tasks is necessary, and the quality of lighting should help to maintain a comfortable and pleasing environment. In the library program of activities, reading and writing commonly require prolonged and close attention. Actually, the best lighting system is one which does not obtrude, which is scarcely noticed, which blends into the architecture of the room, and which provides an adequate level of illumination for the activities to be carried on.

Principles of good visual conditions of any instructional space are the same whether it is a classroom, a laboratory, a shop, or a library—only the application of principles differs. These principles are: (1) Where the child is working, there should be maximum control of glare, and (2) elsewhere in the room, glare should be kept to a minimum (19).

Care must be taken that light fixtures do not violate high brightness limits and also that there are no large areas of objectionable low brightness. Recent research has shown that, with some types of light fixtures, reflected or veiling glare occurs. Such reflected glare materially reduces the contrast within the task and thereby reduces visibility, even though the lighting intensity may be quite high. Designing the lighting system to prevent veiling glare is a technical problem involving the geometry of the system and the type of light fixtures. It should have careful study by the designers.

The proper lighting of the stack area is a difficult problem, the solution of which will depend on factors such as the height of the ceiling and the number of shelves. The objective, of course, is to provide for easy identification of titles on all shelves as well as sufficient light for examination of the contents of the volumes.

Grant Senior High School, Portland, Oreg., is an old, multistory building housing about 2,900 pupils. When the library became inadequate, a separate wing for a large library was constructed in a court. The soft fluorescent lights; high windows; light-reflecting colors on the walls, floors, and furniture induce a feeling of comfort. Discomfort from glare is negligible.

Most school librarians interviewed would like natural light in the library; however, they do not like large areas of glass extending from the floor to the ceiling. In most instances they prefer short, high windows. The primary reason for having windows in libraries is to provide naturalness of environment and to prevent a walled-in feeling. When windows are used as the major source of light, it is difficult to prevent annoying brightness. High brightness from the sky or other outdoor source is just as objectionable as high brightness from a light fixture. In recent years low trans-

mission glass has found wide acceptance with satisfactory results, but like any other device, it can be used or misused. Other means of controlling glare from windows include blinds, draw curtains, outside louvers, or overhang. Where top lighting by the use of ceiling domes or other roof apertures is used, care must be taken to provide controls so that high brightness is prevented and heat gain is not objectionable.

Artificial light fixtures should be chosen for their appearance as well as their efficiency. Fixtures attached to ceilings should be well above the line of vision; egg-crate fluorescent fixtures are preferred by some schools. Fixtures should run parallel to windows, with each section controlled by a separate switch.

The following suggestions on lighting came directly from State supervisors and local school librarians:

- Windows should permit a view of outside landscapes.
- Low windows may cause objectionable glare.
- Gray glass windows in reading rooms reduce glare and heat from the sun.
- Large ornamental type glass areas which admit too much bright light should be avoided.
- Light reflecting walls, ceilings, and furniture are recommended.
- Artificial lighting should be provided as though no other light sources were available.

Temperature Control

The condition of the air and of surrounding surfaces affects the physical and mental comfort of pupils. If the temperature is too cold, they will be distracted; if too warm, there is a tendency for them to become sleepy and inattentive. Therefore, the maintenance of the proper temperature is an important factor in school libraries. Other environmental factors which should be controlled in the library are odors, dust, smoke, and exhaust and chemical fumes.

Some schools present a problem unique in the maintenance of adequate temperature control, because there has been a trend to use large amounts of glass in outside walls. This has resulted in part from increased emphasis on the use of natural daylight and on the architect's concept of aesthetics. Large window areas result in glaring solar gain when the sun is shining, and relatively high heat losses when the sun is not shining. The high solar gain can quickly overheat a school library, even in cold weather. On the other hand, when the sun is not shining in the window, the portion of the room adjacent to it can become cool and uncomfortable.

Some suggestions for controlling temperature in libraries with windows include various types of window coverings such as drapes, blinds or shades, louvered or other type of shutters, and air circulation (apart from air conditioning) mechanically controlled with humidification or dehumidification, as required.

Adequate temperature controls are essential in library quarters. Manual regulation of heating and ventilating systems by teachers or pupils is not only distracting in itself but usually results in the worst possible thermal environment, because no action is normally taken until the situation borders on the unbearable. Many types of automatic controls are available. Since school libraries are used after school and during vacation, zone controls of heating and air-conditioning systems have considerable merit.

Ventilating systems may be classed as open-window, open-window with gravity or mechanical exhaust, and mechanical supply. In general, controlled mechanical ventilation will result in more satisfactory atmospheric conditions than window ventilation. Open windows used for ventilation need mechanical or gravity exhaust, and deflectors should be used to minimize drafts. Heat sources should extend under the windows. Exhaust vents should be near the corridor wall, and fans should be used to force air out of the exhaust system.

The trend of air conditioning schools today may have some influence on the inclusion of large window areas. Air conditioning can be effective in a room with windows if care is taken in their orientation and in the amount of glass area used. Planners and designers of school library quarters should give serious consideration to air conditioning as well as heating. A comfortable environment improves library use because pupils in a comfortable environment do more effective reading, listening, viewing, and writing. The extra cost, if any, for air conditioning in a school library more than compensates the school and community, since instructional materials are used more effectively. Teachers and pupils, as well as parents, appreciate a school library that is comfortable in all seasons of the year. Adequate heat and air conditioning are, therefore, definite assets to the school library program.

Ridgewood Junior High School, North Little Rock, Ark., houses about 1,000 pupils in grades 7, 8, and 9. The library has a large reading room, an office, and a combination work and conference room. Windows on the southern exposure of the building have made it difficult to control glare and heat. Window shades have helped to remedy the light problem in some measure, but the most effective factor in making the library a comfortable place in which to work is air conditioning.

The following statements on temperature control in school libraries were made by professional people in the field:

- Air conditioning in libraries increases their effectiveness.
- Ventilation equipment should be quiet.
- A library in constant use must be efficiently ventilated and kept in the 70° to 75° Fahrenheit range, regardless of temperature outside.

Sound Control

Sound control engineering is an important design aspect of school libraries. When possible, school sites should be located away from sources of excessive sound, such as busy streets and flight patterns of aircraft. Persistent, unwanted sounds are distracting and annoying. The balanced conditioning of the sonic environment of schools involves the propagation of wanted sound and the impeding of unwanted sound. The general concept of "zoning" as related to sound engineering revolves about the basic premise that prevention is better than correction. Sound sources in the general neighborhood and the interrelationship of the various activities in a school must be considered in planning the library quarters.

If a noisy site for the school is unavoidable, then quiet activities such as those in libraries should be located away from the noise sources. Turf, gardens, shrubs, and trees are effective noise reducers. It is important in planning a school plant to group noisy areas with noisy activities and, similarly, quiet areas with quiet activities. The library should be as far removed from noise sources as possible.

Library quarters can be treated to help control sound by several methods, such as using acoustical materials on walls and ceilings, using carpeting on floors, hanging draperies and pictures on walls, and using unparallel walls and uneven ceilings.

The John Overton Junior High School, Davidson County, Nashville, Tenn., has good features for sound control—acoustical ceilings, asphalt tile floors, and high windows. The principal, teachers, and librarian helped plan the library quarters and worked cooperatively with the school architect.

The noise of ventilating systems should be kept to a minimum, and special attention should be given to the duct system to prevent noise from being transmitted from one area to another through the ducts.

With school libraries becoming instructional materials centers, it is important that they be carefully planned to prevent disturbance to readers. Activities connected with the use of audiovisual materials need not be disturbing if sound-resistive partitions separate the quarters from the reading

room. Conference rooms, listening rooms, and workrooms should also have sound-resistive walls. A modern school library need not be absolutely quiet, however. The "hum of industry" sounds are to be expected in a good instructional materials center.

Aesthetic Appeal

Students of architecture say that the "total effect" often adds up to more than the sum of its component parts. This total effect is usually designated as beauty—the aesthetic aspect of conditioning space, both indoors and outdoors. School library quarters which are truly functional and attractive help pupils to feel at ease and to study more efficiently.

Manhattan High School, Manhattan, Kans., one of the schools visited, has an enrollment of 750 pupils with a capacity for 1,000 in grades 10, 11, and 12. The school librarian's ideas are evident in the arrangement of areas and decor. In an article in the *Kansas Teacher*, the school librarian described the library as a pleasant and convenient place for study. She said:

> The soft color tones of walls and furniture provide an inviting appearance. Our library is well lighted and presents an informal atmosphere with two definite reading areas including a lounge area with an adequate space to display current periodicals and newspapers. The periodical shelves are of the slant type which are both attractive and helpful in selecting magazines. Originally we were inclined to look on the lounge area with great trepidation, thinking it invited trouble. After having lived with it for almost 3 years, we find our fears were groundless. Students are very appreciative. They show great pride, seldom misuse it. (21)

Balance should be achieved within and between the conditioning factors—lighting, temperature, sound control, and space; but this balance does not necessarily guarantee a good total effect. A school library may incorporate ingenious design of lighting, heating and cooling, and sound control; but if the total effect of the environment does not "feel good" to pupils, the library quarters are not fulfilling their overall function. Pupils and teachers need attractive surroundings; they can grow and develop best in a pleasing environment.

Achitecture for the library must have aesthetic appeal. The aim of the architect of a school library should be to create harmonious organization of space rather than to develop a particular style of architecture. Through simplicity of form, proper relationships, and elimination of the superficial, some degree of beauty can be achieved. But only with proper dimensions can true beauty be attained. The architect should seek fluidity, proportion, and unity in the school building—particularly in the school library. Beams, columns, and other structural elements not only supply the skeleton but also may have a beauty of their own which enhances the appearance of the library quarters. Humor in decor can do much to make an environment attractive. It may contribute to the feeling of intimacy and comfort which children need. Interior decoration must not, of course, be too far removed from pupils' experience or home environment if it is to contribute to a relaxed learning situation, particularly at the elementary school level.

Creative architects realize the value of appropriate colors in good design. Colors in libraries not only contribute to beauty, but also have a psychological effect on teachers and pupils. Colors such as greens, aquamarines, and blues are restful, red stimulating, yellow exhilarating, and some browns and grays depressing. Libraries with northern exposure can benefit from warm colors such as yellows, pinks, reds, and oranges, while those with southern or warm exposure will benefit by cool colors such as greens and blues. Colors recommended for school library quarters may be determined to some degree by the orientation of the building to sun and light, the size in square feet, design, geographical location, outside details, nearby structures, type of lighting fixtures, and age of pupils. Colors in school libraries should also be selected for good visual efficiency and should help to

create a quiet, restful atmosphere in the reading room. It is advisable to use a light color behind the bookshelf or in the stacks. Generally, it is advisable to use white or off-white for the ceiling, and a light color with a rather high percentage of light reflection for wall space above the bookshelves.

Ironclad rules as to what colors to use in school libraries are not warranted. A great deal depends upon several factors which will vary from school to school and community to community. It is recommended that librarians and teachers cooperate with the architect in writing specifications for interior decoration for library quarters.

In the conditioning of school library quarters, the potential contribution of properly selected floor surfaces should not be overlooked. It seems appropriate here, in discussing aesthetics, to mention carpeting as a floor covering for school libraries. Neil A. Spearman, assistant superintendent of Newark, Ohio, Public Schools, stated in a recent letter the reaction of his school and community to the use of carpeting in a new Newark high school:

> . . . Initially the people of the community felt the expenditure for carpeting was foolish. . . . Since having it placed in the library, the attitude of the townspeople has changed and they are realizing the tremendous effect it has on the students, teachers, and visitors that use and see this facility.
>
> The floor covering, of course, is one of the best weaves that we could get, is very attractive, and does what we wanted it to do: First, to make the facility a quiet area conducive to better study habits and learning procedures; second, to give a dressed-up effect. The carpeting, we feel, has now been completely accepted and has helped to improve the attitude of the students, the dress of the students, and has been very effective in making discipline in the library a very minor problem.

Securing the maximum aesthetic value in a school library cannot be left to chance; there are many highly technical factors to be considered. Only persons qualified in art and architecture can grasp the factors involved and coordinate them into an attractive and useful whole that truly is greater than the sum of all its parts.

Spatial Factor

It is "penny wise and pound foolish" to make substantial investments in good quality lighting, heating and air conditioning, sound control, and functional beauty in spaces that are improperly sized and arranged for library services. The basic justification for providing space for library quarters in all schools is to provide maximum readiness and spatial suitability for work and study. What is to be done in a space and how it is done should determine the floor areas and room dimensions. The adequacy of the area in terms of dignity, composure, and well-being of the pupils should also be considered.

Concluding Statement

PLANNERS OF LIBRARY FACILITIES for schools need to keep in mind that the content, scope, and methods of education are constantly changing as society changes, as knowledge increases, as technology advances, and as more is discovered about how learning takes place. The library must, therefore, be designed for present and future educational programs. Instruction, increasingly involving the use of varied materials and complex electronic equipment, must be supported by school library facilities flexible enough to accommodate changes and new emphases in curriculum.

Cooperative planning of the school faculty with architects and engineers will produce the best results in school library design. Many school systems appoint committees of classroom teachers, special teachers, librarians, principals, and supervisors to plan new schools and school libraries. Teachers and other school personnel who use school libraries have useful suggestions for functional school libraries, and school librarians can assist in preparing specifications not only for the library but also for housing materials in other places in the school. Descriptions of the program and specifications prepared by these committees will help architects and engineers to plan facilities to meet the needs.

In studying to determine the physical requirements of a new school, library planners should seek information from school library supervisors and school facilities consultants of State education agencies, and from literature in the field. They should also visit good school libraries in new and remodeled schools to secure firsthand, reliable information on planning, design, and cost.

Architects should confer with these planning committees to clarify the needs of the program in space and equipment. The committee should continue to work with architects throughout the planning stages, supplying constructive criticism and advice on the architect's plan. School librarians should evaluate the drawings of the library, and may suggest further improvements. Cooperative planning assures that school library facilities can be administered and used to the best effect for education.

Appendix A
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Appendix B
Checklist of Furniture and Equipment

Storage area for audiovisual materials and equipment

Cabinets for films, filmstrips, tapes, and recordings cases for maps and flat pictures
Mechanical copying machines
Micro readers and reader printers
Mobile phonocarts
Projectors
Record players
Tape recorders
Work counter

Space for preparing instructional materials

Drawing boards or tables
Drawing materials
Dry mounting press
Duplicating machines
Photo reproduction machine
Photographic darkroom equipment
Sink
Storage cupboard
Work counter

Librarian's office

Card catalog unit
Chairs
Coat closet
Desk
Lavatory
Shelving
Typewriter table
Vertical file

Workroom

Oversized cabinet, with drawers, 24 by 36 inches or larger
Shelf list cabinet
Shelving
Sink
Storage cabinets
Typewriter
Typewriter table and chair
Water-resistant counter
Water-resistant worktables

Space for textbooks

Chair
Counter window or door
Desk, equipped to store record cards
Shelving

Reading rooms

Atlas case
Book shelving
Book trucks
Bulletin boards
Card catalog
Chairs
Charging desk
Desk for carrels
Dictionary stand
Display cases
Informal furniture for browsing areas
Magazine shelving
Newspaper racks
Stands for bibliographic tools
Tables
Vertical files

Space for teachers' professional materials

Chairs
Desk
Informal furniture
Magazine rack
Shelving
Table
Vertical files

Conference rooms

Bulletin board
Chairs
Chalkboard
Shelving
Table

Library classroom

- Audiovisual equipment
- Bulletin boards
- Chalkboard
- Classroom furniture
- Shelving

Room for storytelling

- Benches
- Cushions
- Risers
- Small chairs for children

Room for listening and viewing

- Chairs
- Closed circuit television equipment
- Projection screens
- Projectors
- Record players
- Shelving
- Stands for equipment
- Table

Storage area for printed materials

- Shelving

Department libraries

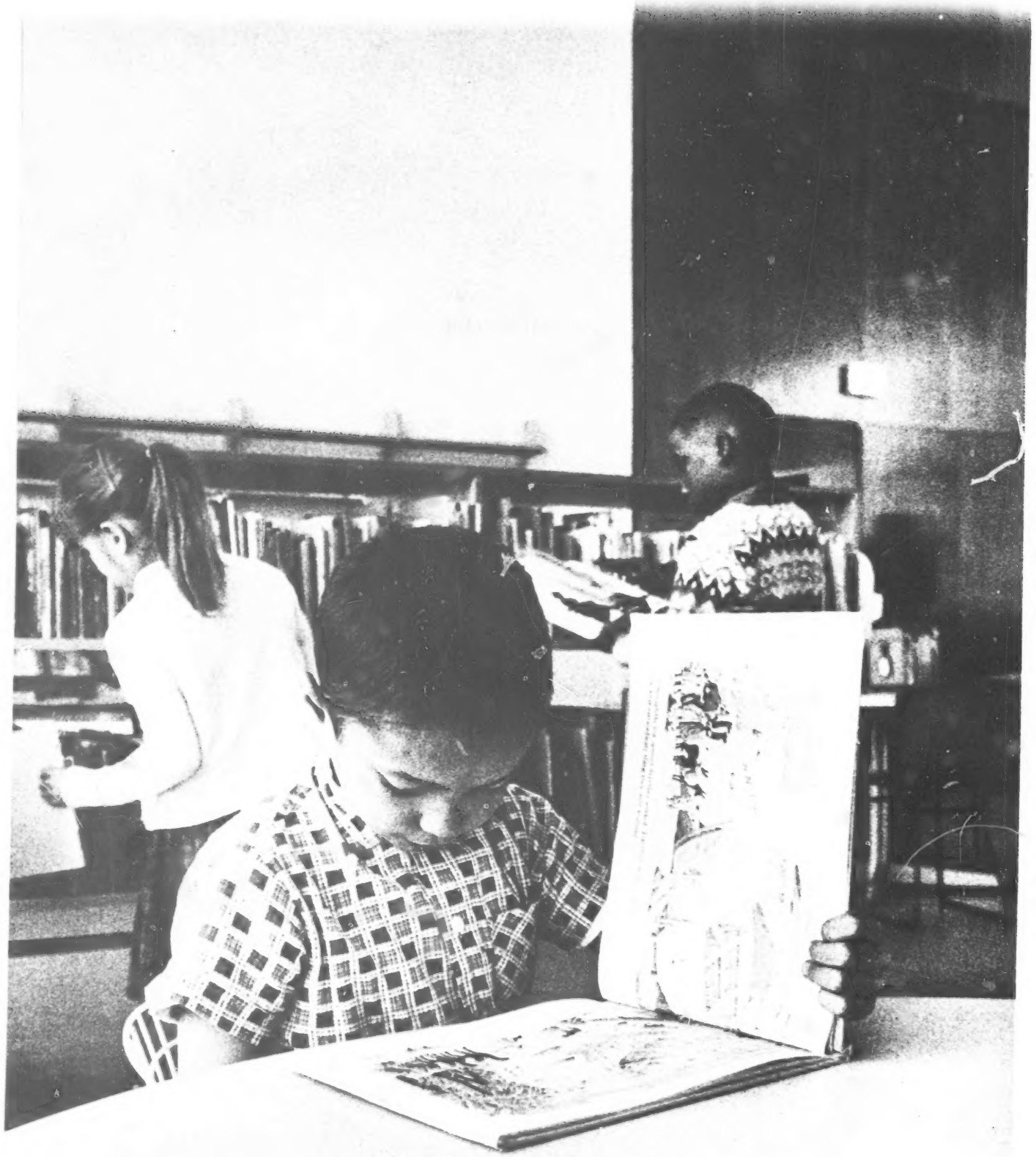
- Chairs
- Individual study desks
- Magazine rack
- Shelving
- Storage cabinets for audiovisual materials
- Tables
- Teacher's desk and chair
- Vertical file

Space for library materials in classrooms

- Shelving
- Storage closet for audiovisual materials
- Tables

Space for library materials in special service areas

- Pamphlet rack
- Shelving
- Vertical file



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